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Environmental Protection Department
Environmental Restoration Division

Community Relations Plan for the Lawrence Livermore National Laboratory Site 300 Superfund Site, San Joaquin and Alameda Counties, California

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Lawrence Livermore National Laboratory
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Table of Contents

List of Tables

List of Figures

Appendices

Community Relations Plan for the Lawrence Livermore National Laboratory Site 300 Superfund Site, San Joaquin and Alameda Counties, California

Executive Summary

This Community Relations Plan (CRP) addresses the current information needs and interests of the public with respect to the environmental restoration of Lawrence Livermore National Laboratory's Site 300, as identified in community interviews conducted between January and March 1991. The U.S. Department of Energy (DOE) and the University of California Lawrence Livermore National Laboratory (LLNL, or the Laboratory), as owner and operator (respectively) of Site 300, are committed to conducting environmental restoration activities at Site 300. Under the terms of the proposed Federal Facility Agreement, DOE is the entity responsible for conducting environmental restoration at Site 300. Soil and ground water at Site 300 are being investigated and remediated by LLNL under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund) of 1980 and the Superfund Amendment and Reauthorization Act (SARA) of 1986, with oversight by the U.S. Environmental Protection Agency (EPA). This CRP outlines the methods which LLNL will use to continue an open dialogue with the public on Site 300 cleanup issues and to involve the community in the decision-making process to the fullest extent possible.

The community identified the following issues of concern during interviews conducted for the preparation of this CRP: the possible effects of ground water contamination on the quality of local water supplies; the potential health effects of ground water and soil contamination on Site 300 workers and the local community; the possible effect of ground water treatment systems on the local availability of water; any effects the contamination at Site 300 or the cleanup process might have on the progress of housing development in the vicinity; access to timely and accurate information; opportunities for public participation in decision-making; potential effects of ground water treatment systems on air quality; agency oversight of LLNL's cleanup activities; possible liability of neighboring businesses for contamination that could move offsite; and other issues not directly related to the Site 300 cleanup.

In general, the local community has confidence in LLNL's ability to identify and cleanup contamination at Site 300. While the neighbors nearest the site are well-informed about developments, the wider community has little information about Site 300 activities. A majority of those persons interviewed stated that general interest in Site 300 appears low at this time.

In order to meet the community's needs for information on and participation in the Site 300 cleanup process, LLNL has developed the following objectives for the Site 300 community relations program:

1. ***Provide accurate and timely information to interested members of the community.***

LLNL will provide information to the public in the form of fact sheets, newsletters, and press releases. In addition, LLNL will maintain information repositories at the LLNL Visitors' Center at LLNL Main Site and the Tracy Public Library. An auxiliary information repository at the Stockton Central Library will be established to serve decision-makers. The Laboratory also will provide interested members of the public with copies of key technical documents, upon request.

2. ***Provide for an open dialogue on Site 300 environmental cleanup issues between the Laboratory and the public, and factor community concerns into the ongoing environmental investigation.***

A dialogue between the Laboratory and the public will be maintained through presentations to organized community groups (e.g., Rotary Club); information sessions with small groups or individuals, as requested; continuing contact with Site 300 neighbors; a public meeting at the completion of all draft Proposed Remedial Action Plans (PRAPs); public comment periods on the PRAPs and other documents as required; formalized responses to comments in a Responsiveness Summary; and ongoing responses to information requests received from the public by the designated LLNL community relations contact person.

3. ***Continue to work closely with the neighbors of Site 300.***

LLNL will continue to keep the neighbors of Site 300 informed of activities at the site through periodic mailings, informal meetings, group tours, and personal staff contact during ongoing sampling work on neighboring properties.

4. ***Be responsive to the special information needs of elected officials, agency representatives, and interested members of the public, including environmental and peace activists.***

Activities designed specifically to meet the needs of these different groups include briefings at key points in the cleanup process; site tours for interested groups as requested, when site conditions permit; presentations on the cleanup to groups, as requested; letters, telephone calls, or faxes to officials and agency staff prior to press releases; and mailings of technical information (the Executive Summaries of key technical documents) to interested members of the public.

5. ***Seek to increase the level of understanding in the community with regard to Site 300 cleanup plans.***

Activities the Laboratory will undertake to improve the level of understanding in the community about its environmental restoration activities include the distribution of understandable, concise written materials in the form of fact sheets and newsletters; presentations to organized community groups; and publicizing the availability of a Technical Assistance Grant (TAG) for a community group interested in monitoring Site 300 cleanup activities.

6. ***Inform Site 300 employees about all cleanup activities being planned and conducted at the site before information is released to the press and the public.***

Employees at Site 300 will be provided with current information through established channels, including weekly briefings of site managers and quarterly briefings of all staff. As the need arises, written materials such as fact sheets and newsletters will be distributed to all staff.

7. ***Respond to changes in community concerns and interest levels.***

The Laboratory will monitor community interests and concerns by making follow-up telephone calls to interested community members and by conducting additional community relations interviews as deemed appropriate. Following additional community assessments, this CRP may be modified to better meet the needs of the public.

8. ***Integrate the Site 300 Community Relations Program into LLNL's overall environmental communications effort.***

Community relations staff and contractors will meet at least quarterly to coordinate LLNL's overall community relations activities to the extent practicable. LLNL's Manager of Area Relations will be the primary-contact person for all LLNL community relations activities to ensure coordination.

Community Relations Plan for the Lawrence Livermore National Laboratory Site 300 Superfund Site, San Joaquin and Alameda Counties, California

Introduction and Overview

Lawrence Livermore National Laboratory (LLNL, or the Laboratory) is conducting a cleanup of contaminated soils and ground water at LLNL's Site 300. This cleanup is being performed under the guidance of Federal Superfund regulations (Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA, and its amendments under the Superfund Amendments and Reauthorization Act, or SARA), National Environmental Policy Act (NEPA) regulations, appropriate State regulations, and the U.S. Department of Energy's (DOE's) Environmental Restoration Program.

Objectives of the Community Relations Program

This Community Relations Plan (CRP) describes the methods LLNL will continue to use to: (1) keep the community informed of progress in the environmental cleanup at Site 300 and (2) allow for two-way communication between the Laboratory and the public. The community relations program for Site 300 will continue to provide nearby residents and LLNL employees with timely, understandable information, and will expand this effort to the wider community. Particular attention will be paid to the varying needs of different interested parties. For instance, activist groups stated a need for more in-depth technical information, while most community members desired understandable, concise information. LLNL will make an effort to address the specific needs of these groups by offering a variety of community relations activities.

The community relations program for Site 300 seeks to provide avenues for public participation in the decision-making process related to the environmental cleanup. At key points during the Site 300 cleanup, the public will be given the opportunity to voice opinions and concerns about proposed cleanup methods. The community's viewpoints will be taken into consideration before any final decisions about cleanup technologies are made.

Note: See Appendix F for a list of acronyms and abbreviations used in this CRP. See Appendix G for a glossary that defines technical terms, acronyms, and abbreviations, including those that appear in **boldface** in the text.

This CRP is based on interviews conducted with LLNL employees, residents and businesses in the Site 300 area, interested community members, environmental and peace groups, elected officials, and agencies from January to March 1991. (A complete list of persons interviewed for this CRP is provided in Appendix A.) The community relations activities outlined in this CRP were developed as a result of the concerns and information needs identified during those discussions. If, however, the community's concerns or information needs change during the course of the cleanup, this CRP can be modified to better reflect changing community views.

As the Site 300 community relations program develops, the Laboratory will make sure that the program remains responsive to the needs of the community. The community relations program for Site 300 environmental cleanup will be integrated with LLNL's facility-wide community relations

program to increase its effectiveness and provide for continuity in the Laboratory's contact with the community.

Summary of Important Issues

During community interviews, the following issues were raised by the interviewees about the Site 300 cleanup:

Issues frequently mentioned:

1. Potential effect of ground water contamination on water quality;
2. Potential effect of ground water treatment systems on water availability;
3. Potential health effects related to the contamination problem;
4. Potential effect of either the contamination problem or the cleanup on housing development near Site 300;
5. Availability and timing of site-related information;

Issues occasionally mentioned:

6. Opportunities for public participation in the decision-making process;
7. Potential effect of treatment technologies on air quality;
8. Agency oversight of cleanup activities;
9. Liability of neighbors for any contamination that spreads to offsite areas; and
10. Additional concerns not directly related to the Site 300 cleanup.

In general, the overall public interest in the Site 300 cleanup appears low at this time, with the exception of community activist groups that are involved in monitoring LLNL activities on a broad range of issues, and any regulatory agencies participating in Site 300 cleanup oversight. Community members living near the site have a good deal of confidence in and approval of LLNL's handling of the investigation and cleanup at Site 300. Many of those living farther from the site, however, have little knowledge about the site and expressed little interest in cleanup activities.

Designated LLNL Spokesperson

As a first step in providing the community with opportunities to comment and ask questions throughout the cleanup process, LLNL has designated a contact person for the community who will take telephone calls and respond to inquiries from the public:

Bert Heffner

Manager, Area Relations, L-404

Lawrence Livermore National Laboratory

7000 East Avenue, P.O. Box 808

Livermore, CA 94550

(510) 294-5806

Combination of Removal Action and Overall Cleanup CRPs

As part of the Superfund cleanup at Site 300, LLNL is undertaking immediate cleanup of one particular area at the site—a ground water plume originating from the eastern General Services Area (GSA). (Please see page 18 for details of this activity.) EPA Superfund guidelines call this phase of the cleanup a "removal action." Superfund regulations require that a CRP be prepared for technical activities associated with this removal action, as well as for activities associated with the overall Site 300 cleanup. Since community relations activities for the removal action and the overall site cleanup will be occurring simultaneously, this Plan functions as a combined document for both the removal action and the overall cleanup. Community relations activities for the removal action will be similar to those for the overall cleanup, with the exception of the timing of activities. The removal action is discussed separately in this CRP where appropriate (e.g., in the **Community Concerns** and **Schedule of Community Relations Activities** sections).

How Technical Reports for Site 300 will be Organized

Site 300 covers a large area (approximately 11 square miles); the contaminated portions make up a small percentage of the site. For the purposes of the Superfund investigation and cleanup activities, Site 300 has been divided into six different areas, known as **Operable Units,** which define the areas where contamination is present. (For a more detailed discussion of the site, please see the **Site History** section, starting on page 8.) Work concerning all of the Operable Units will be addressed in the technical documents for the site. There will be a Site-Wide Remedial Investigation (SWRI) Report that describes the nature and extent of the contamination at each of the Operable Units. However, LLNL will prepare a separate **Feasibility Study Report** (FS) and, when required, a separate **Proposed Remedial Action Plan** (PRAP) for each Operable Unit. All of these documents will be made available for public review at the information repositories for Site 300, listed in Appendix C.

How Community Relations Activities for the Site 300 Cleanup Fit in with the Technical Schedule

The public will have an opportunity to comment on the documents and cleanup plans for each of the six Operable Units. Because of the community's stated preference for more efficient use of time in fewer meetings, LLNL will try to time the investigations and the release of technical documents so that comments can be made on the plans for several cleanup areas during the same public comment period. For instance, when Proposed Remedial Action Plans are released for public comment, the same type of cleanup technology may be recommended for several Operable Units that have similar contamination problems. In this case, LLNL would try to allow community members to submit their comments on that particular technology during a single comment period or at the same public meeting, and those comments will be considered for all the Operable Units where that technology may be applied.

Integration of Superfund and NEPA Public Participation Requirements

The community relations program for Site 300 must comply with Superfund regulations, State Health and Safety codes and NEPA. When these review processes are pursued separately, they have different requirements for public participation. LLNL will implement all required community relations activities, in addition to other activities the Laboratory believes are useful in providing the community with information and opportunities for dialogue. A brief explanation of the requirements of CERCLA and NEPA is provided below. In the **Community Relations Activities and Schedule** tables of this CRP (Table 2, page 42; Table 3, page 45), the activities

are identified as being either 1) required by Superfund, 2) required by NEPA, 3) required by the State, or 4) additional proposed activities (not required). Wherever possible, activities will be integrated, as a matter of DOE policy, so that there is not an excessive number of meetings and hearings for the public to attend.

Superfund Community Relations Requirements

According to Superfund regulations, a **Community Relations Plan** must be prepared, based on community interviews. This CRP provides a record of community concerns at the outset of the cleanup process, and outlines how the cleanup entity (in this case LLNL) will keep the community informed about the site. In addition, **Information Repositories** for the site must be set up at locations convenient to the community. The repositories contain documents and information related to the site cleanup. An **Administrative Record** is established for the site at the office of the lead agency. The Administrative Record contains all documents and correspondence that have a bearing on the decision-making process.

Superfund regulations require that the public be given opportunities to comment on the cleanup method proposed for a Superfund site. A notice is published in one or more area newspapers to let people know that the documents related to the cleanup proposal are available for review and **comment.** The **PRAP** is the technical document that identifies the type of technology that is being proposed by the entity cleaning up the site. The background documents for the PRAP include the **RI** report and the **FS** report. These two reports are sometimes combined into one document, the RI/FS. All of these documents are made available to the public at the Information Repositories.

A 30-day (minimum) comment period begins when the PRAP is released. During the comment period, members of the public may send written comments to the contact person(s) identified in the public notice. In addition, LLNL may hold a public meeting to take oral and written comments and to answer questions from the community about the proposed remedy. The decision to hold a public meeting is based on the level of community interest in, or concern about, the site.

After the close of the comment period, the decision-making agency must take the public's comments into consideration in making a final decision about the cleanup proposal. The record of the public's comments and the agency's responses to those comments is contained in a document called a **Responsiveness Summary.** This Summary becomes part of the final decision document, known as the **Record of Decision,** or ROD. The ROD, including the Responsiveness Summary, will be placed in the information repositories for public review.

Following completion and signing of the ROD, Superfund requires that the CRP be re-evaluated, and updated to reflect any significant changes in the public's interest in or concern about the site.

NEPA Public Participation Requirements

The National Environmental Policy Act (NEPA) requires that a Federal agency (in this case, the DOE) evaluate possible impacts of proposed projects and their alternatives before the projects are started. As part of the NEPA process, DOE will review cleanup activities proposed for Site 300. Appropriate alternatives to the proposed cleanup project at the site will be assessed to provide a relative measure of their positive and negative impacts. DOE must consider these environmental impacts when selecting appropriate alternatives to the proposed project.

It is DOE policy that CERCLA and NEPA procedures are to be integrated whenever practical. An integrated process makes it easier for the public to comment on proposed actions by addressing CERCLA and NEPA requirements in combined documents. For Site 300, NEPA environmental reviews will be integrated into the RI/FS documents produced under CERCLA requirements. During the preparation of a draft RI/FS report, DOE will review the proposed remedial action to determine what the potential environmental impacts of the action would be.

Certain Site 300 activities may be exempt from further NEPA review by virtue of **Categorical Exclusion** status. DOE has defined Categorical Exclusions for certain activities that are routinely conducted and for which the potential environmental impacts are clearly insignificant. If a Categorical Exclusion is identified for a specific proposed action at Site 300, the RI/FS document will cite that the proposed action has been categorically excluded from further NEPA review. In this case, no separate NEPA public participation requirements apply to the Categorical Exclusion.

If the proposed action cannot be categorically excluded, a full **Environmental Assessment** (EA) is prepared. An EA evaluates the proposed action and its alternatives for their potential impacts on environmental resources. EAs may take into account such factors as the potential impacts on threatened or endangered species; archaeological, historical, or cultural resources; prime agricultural land, etc. For Site 300, the EA will be fully integrated into the RI/FS document. The public can review and comment on the RI/FS document during the formal comment period for a PRAP, described above in the CERCLA public participation section. DOE will issue a **Finding of No Significant Impact** (FONSI) for the proposed action after the environmental review process is complete and the DOE decision has been reached that the action will cause no significant environmental impacts. The FONSI summarizes that proposed remedial action and the results of the EA review process, and it informs the public of the availability of the EA information. The FONSI itself or an announcement that it is available for public review will be published by DOE.

A FONSI will not be issued if the results of the DOE EA review process reveal that there is potential for significant environmental impact from a specific action. Instead, DOE will announce its intention to prepare an **Environmental Impact Statement** (EIS) for the proposed action. An EIS describes in much greater detail what the environmental impacts could be, and how those impacts could be corrected through mitigation measures, when practical. If DOE intends to prepare an EIS for a proposed action, the procedures for integration of the EIS with CERCLA documents will be determined based on the specific situation. In some cases, it may not be desirable to combine EIS and RI/FS documents because of time constraints or the actual size of each document. Before EIS preparations begin, DOE will hold a "scoping session" to receive comments from the public and other agencies about what issues should be considered in the EIS. Subsequently, the public has at least two more opportunities to make formal comments on the EIS, once during its draft stage, and once before the final document is certified.

State Health and Safety Code Public Participation Requirements

Most State public participation requirements parallel the requirements under Superfund regulations, with the following exceptions. When a Proposed Remedial Action Plan is released, the State requires that notices of the PRAP be posted at or near the location where the action is to take place. In addition, PRAP notices must be mailed to all adjacent property owners. During the comment period, at least one public meeting must be held to provide information to the public about the PRAP. A schedule for cleanup activities must be developed and made available to the public.

Site History

Site Location, Ownership, and Operation

Site 300 of LLNL is located in the Altamont Hills on the border between San Joaquin and Alameda Counties. It is 8 miles southwest of Tracy and 65 miles southeast of San Francisco. The site covers 11 square miles of steep hills and rugged canyons in a sparsely populated area. The main LLNL site is located adjacent to the City of Livermore in Alameda County, about 10 miles northwest of Site 300 (see Figure 1 on page 9).

LLNL is a multi-program national laboratory whose primary mission since 1952 has been to conduct research and development activities for nuclear weapons programs. The Laboratory has diversified its activities in the past 20 years by expanding into other areas of research, including energy and medicine. LLNL is currently operated and managed by the Regents of the University of California, under contract to the U.S. DOE. Both the land at Livermore and at Site 300 are owned by DOE. Because the main LLNL site is not a part of the Site 300 Superfund cleanup, no activities at the main LLNL facility are discussed in this CRP.

Site 300 was open range land prior to being purchased by the Atomic Energy Commission in 1953, and has since been used as a processing and testing ground for non-nuclear high explosive (HE) materials. **Nuclear weapons were not and are not tested at Site 300.**

Overview of Current Environmental Cleanup Issues

Processing, testing, and detonating HE materials, along with past waste management practices, have resulted in the contamination of soil and ground water in some areas of Site 300. While past disposal regulations may have permitted such activities, more recent legislation is stricter in its control of waste generation and disposal, and requires that LLNL clean up the existing contamination at Site 300. Although the contamination poses no threat to the public, LLNL will act to prevent any further movement of contamination to offsite areas, and to comply with State and Federal regulations governing its cleanup activities.

The ground water in the vicinity of Site 300 is used primarily for watering livestock. In addition, there are four wells off the site that are used to provide drinking water for neighbors of Site 300. To date, no contaminants have been detected in any of these wells. Springs and wells in the area are tested on a regular basis. Drinking water sources are tested once a month, and springs and livestock supply wells are tested every three months. It is not expected that the drinking water-supply wells off the site will be affected by the contamination for two reasons: (1) The wells are deep wells, drawing their water from different water-bearing zones below the shallow water-bearing zones where contamination is found. There does not appear to be any connection between these water-bearing zones that would allow contaminants to reach the zones used for water supplies. (2) The contaminated ground water near the wells flows away from the wells, or downgradient. The typical flow of the ground water will take the contaminants farther away from these wells.

In addition, there are wells located on Site 300 that provide drinking water to site employees. These wells meet the State and Federal drinking water standards. However, the overall quality of the ground water in the area is marginal and its taste is not good. For this reason, most employees drink bottled water that is provided by LLNL.

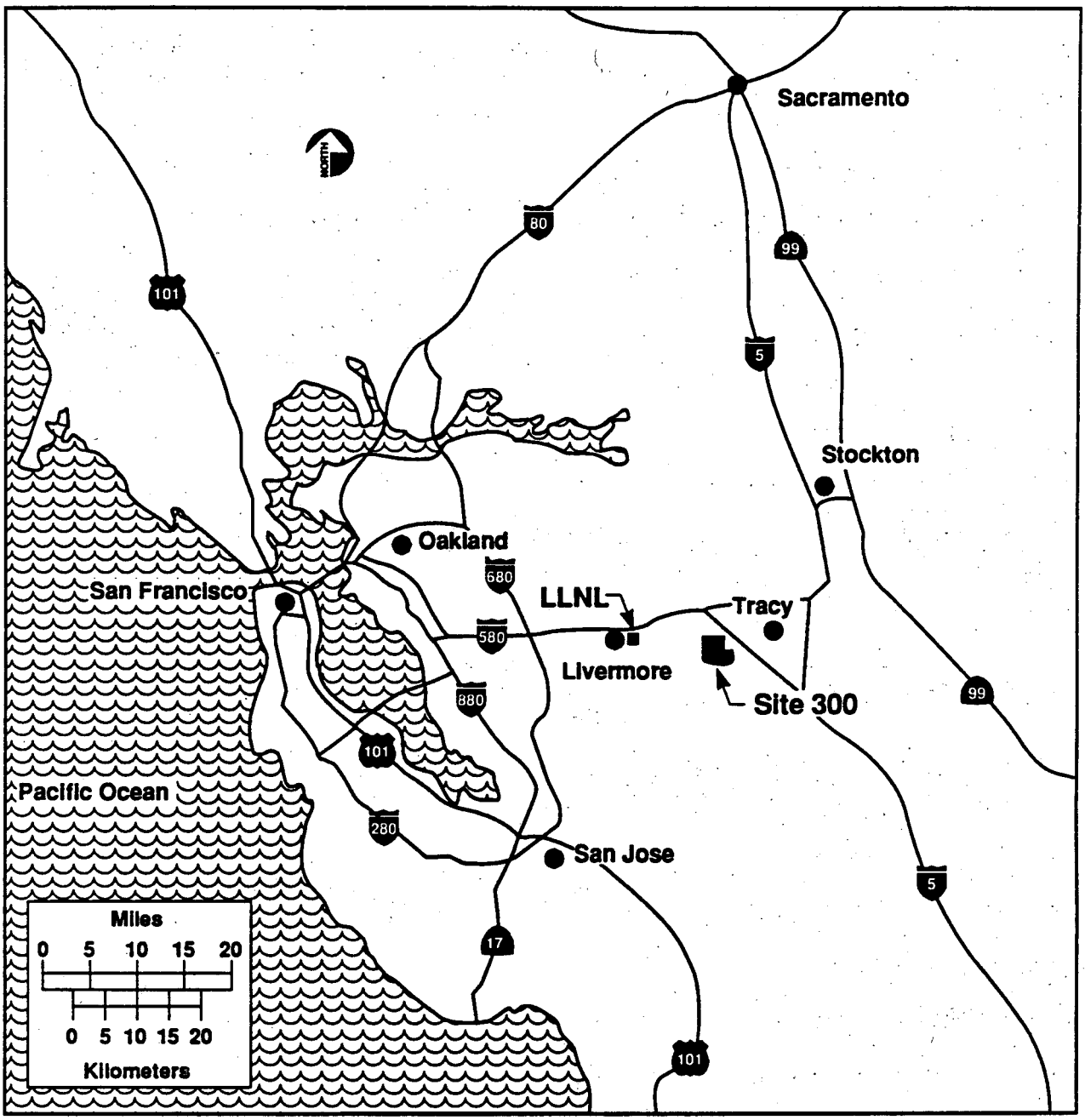

Figure 1. Locations of LLNL Main Site and Site 300.

Description of Environmental Contamination

The hazardous materials of concern that have been found in soil and ground water at LLNL are volatile organic compounds, high explosive compounds, and tritium. These contaminants, along with their possible health effects, are described below. Details on the areas of contamination at Site 300 can be found starting on page 14.

Volatile Organic Compounds (VOCs)

VOCs are frequently used as solvents and cleaners and have a tendency to evaporate easily at room temperature. At Site 300, VOCs have been used as cleaning agents and as heating and cooling agents during weapons components testing. Some familiar substances containing VOCs are gasoline, paint thinners, and nail polish remover. Four VOCs have been detected in soil and ground water at Site 300: Trichloroethylene (TCE), tetrachloroethylene (PCE), trichloroethane (TCA), and 1,2-dichloroethylene (1,2-DCE). TCE is the VOC found at the highest concentrations in soil and ground water at Site 300. Other VOCs have been found in relatively low concentrations.

At high concentrations and over long periods of exposure, VOCs could cause damage to human organs. TCE and PCE are classified as suspected carcinogens (cancer-causing agents) by EPA. The State of California and EPA have set the acceptable level of TCE in drinking water at 5 parts of TCE per billion parts of water (5 parts per billion, or 5 ppb).

High-Explosive (HE) Compounds

HE compounds are used at Site 300 in weapons components that are tested at the site. Two HE compounds are present in soil and ground water at Site 300: cyclo-1,3,5-trimethylene-2,4,6-trinitramine, commonly known as Research Development Explosive (RDX); and cyclo-tetramethylene-tetranitramine, commonly known as High Melting Point Explosive (HMX). Laboratory studies to date indicate that the toxicity of both RDX and HMX is low. RDX has been shown to cause central nervous system excitation, labored breathing, and liver damage in tests on laboratory animals; the only known effect of RDX inhalation or ingestion on humans is temporary nervous system toxicity. HMX has shown some toxicity to liver and kidneys in laboratory animals; no studies have ever been conducted on toxic effects to humans. Currently, there are no State or Federal drinking water standards for HE compounds.

Tritium

Tritium is a radioactive form of hydrogen that was used as a component of the explosives tested at Site 300 between 1963 and 1978. Tritium has a half-life of approximately 12.3 years, meaning that one half of the original quantity of tritium naturally decays into non-radioactive materials in 12.3 years, and continues to decay at that rate until all of it decays into non-radioactive materials. In the process of decaying, tritium emits low-level radiation. Radiation from tritium would be stopped by clothing or by this piece of paper. The only way for tritium to cause harm to humans is by getting the tritium inside the body.

If inhaled or ingested into the human body in large doses or over long periods of time, tritium can increase a person's chances of contracting cancer. The California State Maximum Contaminant Level for tritium in drinking water is 20,000 picoCuries per liter of water (20,000 pCi/L). A picoCurie is a unit used to measure radioactivity.

None of the tritium-containing water at Site 300 is used for drinking or other purposes by humans or animals.

Public Health Concerns

LLNL investigations to date have shown that the primary potential threat to human health and the environment at Site 300 is the presence of VOCs, HE compounds, and tritium in the ground water. There are four private wells in the vicinity of Site 300 that are used for drinking water. Two of these wells are located near the southeast corner of the property, one is southwest of the GSA, and the other one is located east of Pit 6. **None of the hazardous chemicals detected at Site 300 have been found in these wells. LLNL samples these wells once a month to monitor water quality. If hazardous materials were detected in one of the wells, LLNL would take appropriate action to ensure that these materials would not pose a threat to public health.**

Of special concern to some individuals is the presence of radioactive tritium as a contaminant in the ground water at Site 300. Given the slow rate of ground water movement (approximately 30–100 feet per year) and the relatively short half-life of tritium (about 12.5 years), LLNL believes that the tritium in the ground water at Site 300 would be reduced to very low levels, well below the State and Federal drinking water standard of 20,000 pCi/L, before it could move offsite. A half-life of 12 years means that half of the tritium will decay into non-radioactive, non-toxic materials (primarily helium-3) in 12 years. The tritium will continue to decay at that rate until it is no longer radioactive.

For the above reasons, LLNL does not believe that tritium in ground water at Site 300 poses a health threat to Site 300 employees or the surrounding community. LLNL will continue to monitor tritium concentrations in soil and ground water in the Site 300 area. If tritium is detected offsite at concentrations above the State drinking water standard, LLNL will take immediate and appropriate action to ensure the safety of public health and the environment.

Site 300 Environmental Cleanup Areas

Site 300 consists of separate areas with different contamination problems. The Superfund cleanup effort also will be divided into distinct areas, known as Operable Units in Superfund terms. There will be six Operable Units at Site 300 and each will be investigated and treated as a separate cleanup site. Each Operable Unit at Site 300 is described below. The locations of the Operable Units are shown in Figure 2. Table 1 lists the basic information about the Operable Units.

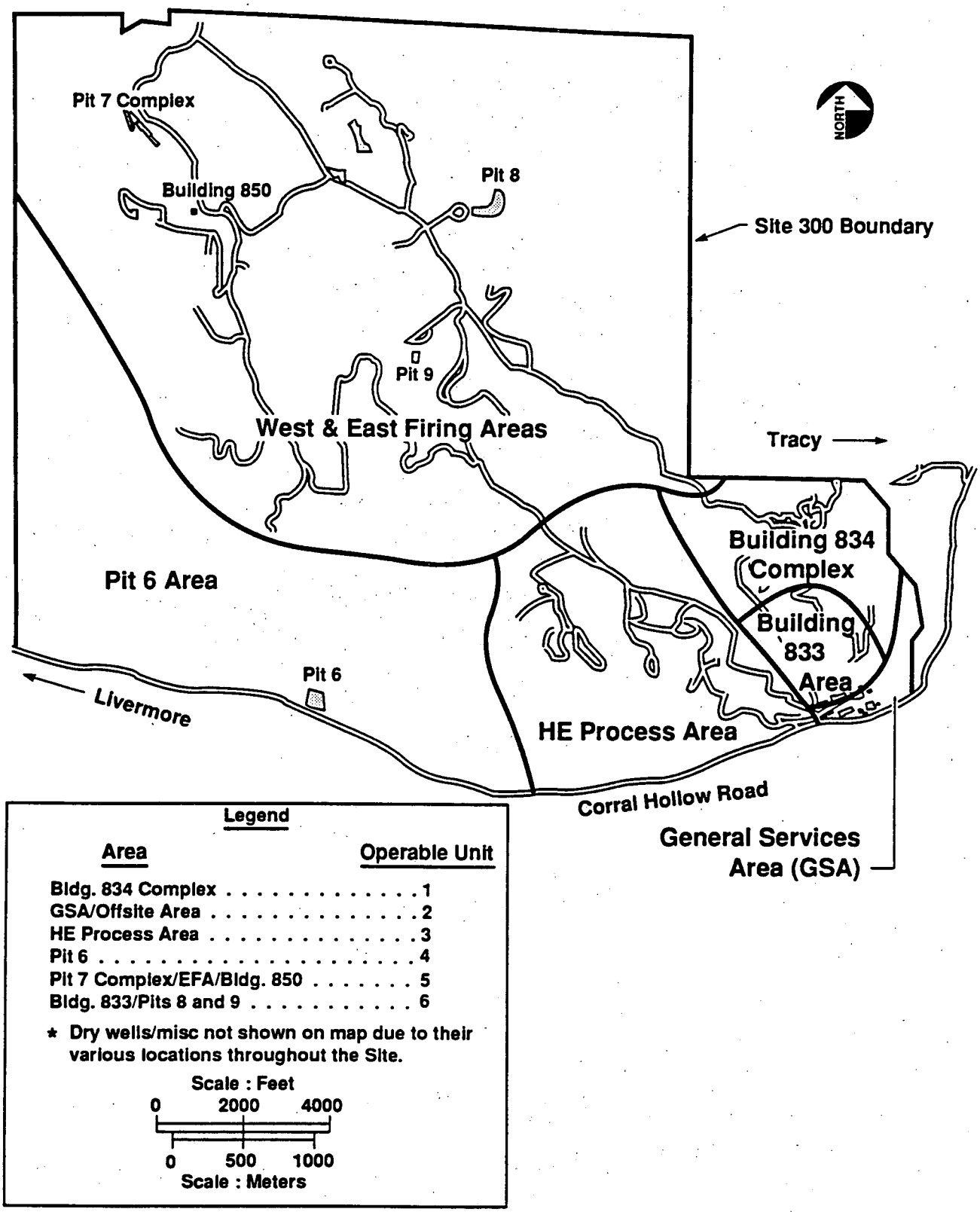

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Figure 2. Activity areas at Site 300.

Table 1. Operable Units at Site 300.

Operable Unit	Contaminants	Operations
Building 834 Complex	TCE PCE 1,2-DCE	Testing of weapons components under varying environmental conditions
GSA/Offsite Area	TCE PCE	Administration and support facilities
HE Process Area	HMX RDX TCE	Preparation of high-explosive compounds using pressing and machining
Pit 6	TCE	Waste disposal from LLNL Main Site and Lawrence Berkeley Laboratory only
Pit 7 Complex/East Firing Area/ Building 850	Tritium Lead	Non-nuclear explosives testing and disposal of testing debris
Building 833/Pits 8 and 9/Dry Wells/Miscellaneous Solid Waste Management Units	TCE PCE 1,2-DCE	Various operations, including storage, testing, and disposal of weapons components

Operable Unit 1: The Building 834 Complex

The Building 834 Complex is located in the Weapons Test Area. The purpose of the Weapons Test Area is to analyze the changes that occur in test materials when they are subjected to varying external conditions, such as exposure to extremes in temperature.

TCE is used in the Weapons Test Area as a cooling and heating agent during testing. It is stored at the center of the Building 834 Complex. An aboveground piping system carries the TCE to the test cells within the complex. Leaks in the system's TCE pipes and minor spillage that occurred in the past are considered to be the source of TCE releases at Building 834. The system has since been upgraded to prevent future leaks.

TCE is the primary contaminant in soil and ground water in this area. The highest concentration of TCE in ground water near Building 834 is approximately 510,000 parts per billion (ppb).

Operable Unit 2: The General Services Area/Offsite Area

The General Services Area (GSA) occupies about 80 acres in the southeast corner of Site 300 and contains most of the site's administrative and support facilities. The Safeguard and Security and the fire departments, medical support, plant, mechanical and electrical engineering, and storage are located in the GSA.

In the past, waste water from some wash areas onsite was directed by pipe into shallow, gravel-filled pits that are commonly referred to as "dry wells." One of these dry wells appears to be the primary release site for VOCs in the GSA. LLNL closed the dry well in 1983 by digging up the contaminated soil. Dry wells are no longer used at Site 300 and have been replaced by either waste water retention tanks for potentially contaminated water or by a sewage/septic tank system for ordinary sewage and wash water.

Several VOC ground water plumes (areas of contamination) have been identified in the shallow ground water aquifer (about 15 to 50 feet below ground level) in the GSA. TCE has been detected in ground water samples at concentrations of up to 6,100 ppb, and PCE has been detected at concentrations of up to 2,400 ppb.

A VOC plume with low concentrations of chemicals begins below a debris pile in the eastern GSA and extends offsite along the path of Corral Hollow Creek for about 4,000 feet, beneath private land and State of California property (see Figure 3). In the western GSA, a small TCE plume of relatively low concentration extends southeast from the Well 6 area. In the central GSA, three small but more concentrated plumes extend from the area of two former dry wells and a drum storage area. TCE at concentrations of up to 44 ppb has been detected in one well (Well 7G) that monitors a deeper water-bearing zone.

Operable Unit 3: The HE Process Area

HE compounds—primarily HMX and RDX—are formulated, pressed and machined in the HE Process Area for use in explosives experiments at Site 300. Following the HE processing, process water and rinse water containing fine particles of HE compounds were disposed of in dry wells and lagoons near the processing buildings. This practice may have contributed to the RDX and HMX soil contamination in the HE Process Area. LLNL stopped this method of disposal in 1985. The dry wells were taken out of service and lagoons were replaced with retention tanks and double-lined surface ponds. The surface ponds were designed to prevent the leaching (downward movement) of such compounds into the ground water.

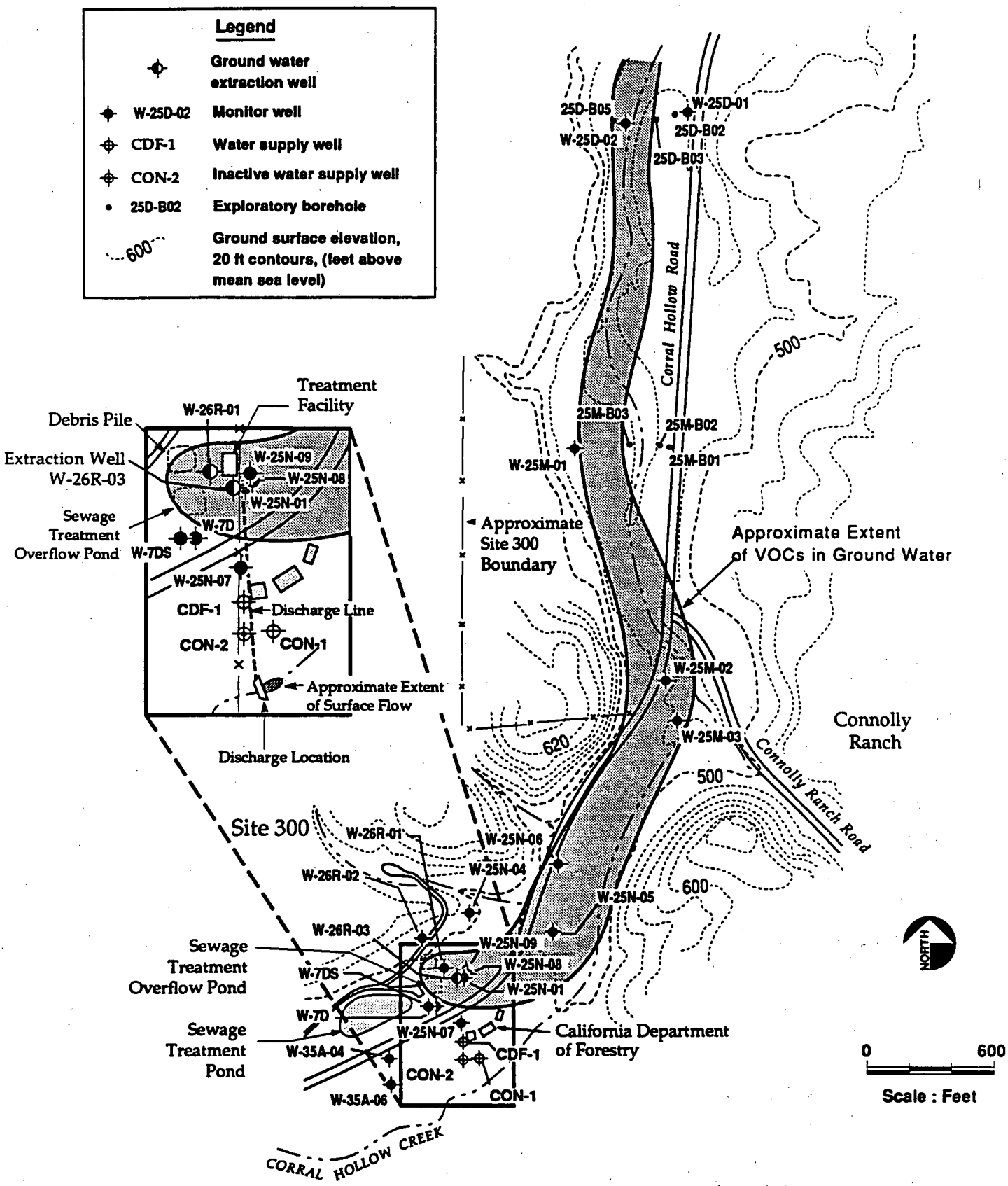

Figure 3. Eastern GSA ground water plume.

LLNL detected HMX and RDX in ground water samples collected near HE Process Area Buildings 815 and 817. The maximum HE concentration detected in ground water samples is 350 ppb of RDX.

TCE also has been detected in ground water at the HE Process Area. TCE is believed to have leaked from a drum used to clean heating facilities in the HE Process Area. TCE concentrations in ground water range in amounts of up to 370 ppb. No other VOCs were detected above the State drinking water level.

Operable Unit 4: Pit 6

Pit 6 is a closed former landfill that covers 2.4 acres in area, about 15% of which actually received hazardous waste. Pit 6 was in operation from 1964 to 1973, receiving wastes from Lawrence Berkeley Laboratory and LLNL's Main Site. Pit 6 never received wastes from Site 300 activities. Wastes deposited in Pit 6 during its operation included construction materials, laboratory equipment and chemicals, scrap metal, paint wastes, electrical parts, and remains of biomedical research animals. Pit 6 was closed by covering it with about 3 feet of soil. Since closure, Pit 6 has been used as a rifle range by LLNL's Safeguards and Security Department and by police officers from San Joaquin County, the State of California, and the Federal Government.

TCE is the main contaminant identified in ground water at Pit 6 thus far. VOCs are the only chemicals that have leaked from the landfill. The maximum current TCE concentration in ground water at Pit 6 is 41 ppb.

Operable Unit 5: Pit 7 Complex/East Firing Area/Building 850

The Pit 7 Complex, Building 850, and the East Firing Area are included in the same Operable Unit because in these areas tritium has been identified as the primary contaminant. The Landfill Pit 7 Complex and Building 850 are located in the West Firing Area of Site 300. The East Firing Area is included in this Operable Unit because some of the contamination from Building 850 has migrated into East Firing Area ground water.

Each of the two firing areas contains several firing tables where the actual explosives testing takes place. These firing tables are underlain by rock and soil and covered with gravel. A concrete-reinforced building containing diagnostic instruments is located next to or beneath each firing table. LLNL uses X-rays, lasers, and high-speed cameras to record the explosion process at these firing tables, and then studies the nature of the explosion.

Between 1963 and 1978, LLNL conducted simulated open air weapons detonations that involved the use of radioactive substances. Tritium, depleted uranium, and beryllium were used as explosive components at the firing tables, and were therefore part of the scattered debris. Until 1988, the top layer of the firing table gravel and the debris from the high-explosives experiments were deposited in the landfills that make up the Pit 7 Complex (Pits 3, 4, 5, and 7). The materials scattered at the firing tables and debris deposited in the landfill pits are suspected to be the cause of soil and ground water contamination in these areas. The landfills are no longer in use at Site 300. Currently, the testing debris is being stored at Site 300 in containers to await disposal at DOE's Nevada Test Site or at another approved offsite facility.

Of the weapons test materials, only tritium has been detected in the ground water near the East and West Firing Areas and surrounding pits at levels above natural concentrations. There are three tritium ground water plumes in the firing areas. One plume originates from landfill Pit 3, with a maximum tritium concentration of about 360,000 picoCuries per liter of water. The second plume comes from Pit 5, with a maximum concentration of 180,000 pCi/L. A third tritium ground water plume has its source at the Building 850 firing table; its maximum current tritium concentration is 280,000 pCi/L.

Operable Unit 6: Building 833 and Areas Not Included in Other Operable Units (Pits 8 and 9, Dry Wells, and Other Solid Waste Management Units)

Operable Unit 6 consists of areas of investigation at Site 300 not covered by the other Operable Units. Low concentrations of contaminants have been found in soil and/or ground water in some of these areas.

The Building 833 Area consists of buildings formerly used to conduct testing on HE products under different environmental conditions, such as extremes of temperature. The primary contaminant in this area is TCE, which was found in the soil and two isolated areas of ground water at low concentrations.

Pits 8 and 9 are inactive landfills that once received debris from explosives testing. Ground water beneath Pit 8 contains VOCs at concentrations just over the State and Federal limit of 5 ppb. These VOCs are presumably from an adjacent building (Building 801). Pit 9 has shown no chemicals in ground water above background concentrations.

Twenty-five dry wells were used at some point at Site 300. The dry wells were generally unlined pits used to dispose of rinse water, waste water, and drain water from various operations scattered around the site. Seven of the dry wells in the General Services Area were investigated and closed between 1963 and 1984. Other dry wells have been or are being investigated and have been taken out of service.

Agency and Technical Activity to Date

LLNL has been conducting environmental restoration activities at Site 300 since 1982, when it began its own investigations into potential contamination at the site. After the discovery of contamination in soil and ground water in the GSA in 1982, the Laboratory voluntarily continued its investigation, seeking informal guidance from the California Regional Water Quality Control Board (RWQCB)—Central Valley region. Additional regulatory agencies that currently oversee Site 300 restoration activities include the U.S. EPA, the California Environmental Protection Agency (California EPA), the San Joaquin Valley Unified Air Pollution Control District, and San Joaquin County Public Health Services.

In March 1989, the EPA issued an Administrative Order to LLNL for Site 300, requiring LLNL to investigate all releases of hazardous waste or hazardous constituents at the site, and to determine whether corrective actions under the Resource Conservation and Recovery Act (RCRA) were required. In April 1989, the California RWQCB issued a draft Cleanup and Abatement Order, requiring LLNL to continue the environmental restoration efforts that were already underway. In July 1989, the EPA proposed Site 300 for inclusion on the Superfund National Priorities List (NPL). The NPL is the list of hazardous waste sites nationwide that have been identified for cleanup under the Federal Superfund program. In August of 1990, the EPA added Site 300 to the NPL, and thus took over guidance and oversight of the Site 300 cleanup process. A Federal Facility Agreement (FFA) is currently being negotiated between the EPA, the California EPA, the California RWQCB, and the DOE (for LLNL). This agreement establishes the working relationship between the agencies with regard to the cleanup at Site 300, along with the required technical documents and schedules for submittal of those documents.

Eastern GSA Removal Action

Superfund regulations provide for situations that require immediate attention, when the standard reporting and review process is impossible to implement. In these cases, Superfund allows for a "removal action" to take place. Removal actions are remedial activities that must be started within a short period of time to prevent further contamination from occurring.

LLNL began a removal action in the eastern GSA area in March 1991 to prevent further movement of TCE-containing ground water. Investigations indicated that the contamination had moved offsite onto private and State of California property. The plume extended approximately 4,000 feet from the Site 300 boundary following the direction of Corral Hollow Creek northward (see Figure 3 on page 15).

The contamination does not pose a threat to human health. However, LLNL agreed with the California RWQCB and EPA that it is important to prevent further movement of the ground water plume into other offsite areas. LLNL will continue this removal action until the plume in the eastern GSA has been cleaned up to acceptable State and Federal levels.

Chronology

Below is a chronological listing of major agency and technical environmental restoration activities at Site 300 that have been conducted to date.

1982

- LLNL begins conducting environmental restoration activities with investigations of landfills at Site 300.
- The use of TCE as a cleaning solvent is reduced, and LLNL begins an initial investigation of TCE in soil and ground water at the Building 834 and 854 complexes, and in the GSA.

1983

- LLNL begins investigating the rinse-water lagoons in the HE Process Area.
- Investigation of TCE contamination is expanded at the Building 834 and 854 complexes, and initial studies of the GSA are performed.

1984

- Tritium is first detected downgradient from the Pit 7 landfill complex above the State Drinking Water Standard of 20,000 pCi/L.
- LLNL begins investigation of RDX in ground water in the HE Process Area.
- Soil contaminated with TCE at the Building 854 and 834 complexes is excavated and treated.

1985

- LLNL stops disposing process rinse water containing HE compounds into lagoons in the HE Process Area. All rinse water is subsequently placed in double-lined surface impoundments.

1986

- The TCE, tritium, and RDX/HMX investigations continue.

1987

- Ground water investigation in the GSA is intensified.
- LLNL begins testing of ground water and soil remediation systems at the Building 834 complex.

1988

- LLNL conducts a soil gas survey in the GSA.
- In March, LLNL submits a Closure Plan for the decommissioned rinse-water lagoons in the HE Process Area to the California RWQCB. The California RWQCB approves the Plan on June 16, 1989.
- The Closure/Post-Closure Plan for Pits 1 and 7 in the EFA and WFA, respectively, is submitted to the regulatory agencies.
- In July, LLNL submits a Solid Waste Assessment Test for Pit 6 to the California RWQCB.
- Gravels from six firing tables are excavated and disposed of in Pit 7.
- LLNL conducts a leak detection test for the underground storage tank at Building 874; two leaks are detected.

1989

- LLNL begins a large-scale waste minimization program at Site 300 to reduce generation of hazardous, low-level radioactive, and mixed wastes.
- Ground water sampling throughout Site 300 continues.
- In March, the EPA issues RCRA Order 3008(h).
- In April, the California RWQCB issues a Draft Cleanup and Abatement Order.
- In July, the EPA issues RCRA Corrective Action Order 3004(u).
- In July, the EPA proposes Site 300 for the NPL.
- In September and October, LLNL completes closure of the HE Process Area lagoons.
- In November, an RI/FS for the Pit 7 Complex in the WFA is submitted to the regulatory agencies.
- In December, the RI/FS for the dry wells is submitted to the regulatory agencies.
- LLNL conducts a soil gas survey in the Building 833 area to identify TCE concentrations in soil and ground water.

- LLNL conducts a magnetic survey of the Building 823 vicinity and identifies an old disposal site.
- RIs of Pits 8 and 9 are conducted, and LLNL submits reports to the regulatory agencies.
- The RI report for the HE Burn Pit is submitted to the regulatory agencies.
- LLNL conducts a leak detection test for the underground storage tank at Building 801 and samples contaminated soils near the tank.
- LLNL seals and abandons six supply wells at Site 300 to prevent the potential for contaminants to move between aquifers.
- An Information Repository for Site 300 is established in the Visitors' Center at the LLNL Main Site in Livermore.
- The RI report for the HE Process Area is submitted to the regulatory agencies.

1990

- LLNL installs a ground water monitoring network at Building 851 in the WFA.
- The draft RI report for the GSA and adjacent off-site area is submitted to the regulatory agencies.
- The draft RI report for Pit 6 is completed and submitted to the regulatory agencies.
- The draft RI report for B850/East Firing Area is completed and submitted to the regulatory agencies.
- The draft RI/FS report for the Building 834 complex is completed and submitted to the regulatory agencies.
- LLNL completes the Site Inspection of an old disposal site at Building 823 and concludes that there is no threat to public health and safety from the site.
- LLNL removes and closes leaking underground storage tanks at Buildings 801 and 874.
- LLNL seals two water-supply wells to remove the potential for contaminant migration between aquifers.
- In August, the EPA places Site 300 on the NPL.
- In October, LLNL releases the Preliminary Draft Alternatives Analysis for the Eastern GSA/Offsite Interim Ground Water Treatment Facility.
- In October, the EPA agrees to suspend the RCRA 3008(h) and 3004 (u) Orders and the California RWQCB suspends the Draft Cleanup and Abatement Order in favor of a CERCLA (Superfund) FFA; EPA, DOE and LLNL negotiate a Letter of Agreement to cover Site 300 environmental restoration activities and schedules until an FFA is finalized.
- LLNL discovers evidence suggesting the potential for movement on a strand of the Carnegie Fault along the southern edge of Site 300, and holds briefings for staff, officials, and the media.
- The California RWQCB approves LLNL's Closure Plan for Pits 1 and 7.

1991

- In February, the California EPA holds a public hearing in Tracy on the proposed RCRA closure of Pits 1 and 7.
- The California RWQCB holds a public hearing on LLNL's request for a National Pollution Discharge Elimination System (NPDES) permit for treated ground water discharge to Corral Hollow Creek on February 22. The permit is approved.

- LLNL submits an EA for the eastern GSA removal action to DOE in February. DOE reviews and approves the EA, and issues a FONSI for the eastern GSA removal action in March.
- LLNL begins a removal action for contaminated ground water in the eastern GSA in March.
- On March 25, the EPA and the California EPA approve LLNL's Closure Plan for Pits 1 and 7.

Upcoming Technical Activities

Now that the EPA has assumed lead oversight responsibility for the LLNL Site 300 cleanup, the technical activities undertaken by the Laboratory are required to conform with specific Federal guidance for Superfund site investigations and cleanups. This guidance is provided in CERCLA and SARA, the Superfund regulations and their amendments. The schedule for the investigation and cleanup activities will be formalized in the Federal Facility Agreement. All schedules or schedule changes are subject to EPA approval.

As discussed in the Introduction, the site is being treated as six separate areas for the purposes of technical documentation. Each area will have a full set of technical reports. These reports will be made available to the public at the Information Repositories in both draft and final forms.

The **Remedial Investigation** (RI) and **Feasibility Study** (FS) reports are the backbone of the Superfund process. These reports:

- Contain the data necessary to define the type of contamination and the boundaries of the affected areas;
- Assess the human health and environmental risks posed by the contaminants;
- Establish criteria for cleaning up the site;
- Identify and screen cleanup alternatives for remedial action; and
- Analyze in detail the technology and the costs and benefits of each alternative.

In addition, the FS reports for Site 300 will incorporate a chapter that serves as the **Environmental Assessment** (EA) under NEPA. An EA is required by NEPA for all Federal agency activities that could potentially affect human health or the environment. The EA chapter will report on what effects each cleanup plan might have on health or the environment.

Following submittal of the final overall Site-Wide RI and FS reports for each of the six cleanup areas, LLNL will identify proposed cleanup methods for each area, known as remedial action technologies. LLNL will select a preferred cleanup alternative for each area. These alternatives will be presented in the **Proposed Remedial Action Plans**, or PRAPs. LLNL will allow the public a minimum of 30 days to review and comment on each PRAP. During this public comment period, LLNL also will hold a community meeting to discuss and solicit public comments on the RI, FS, and PRAP. After considering public comments, LLNL will finalize the Remedial Action Plan in a **Record of Decision** (ROD). The ROD will contain responses to all significant public comments made during the comment period. EPA, as the lead oversight agency, will have final authority to approve the ROD. There will be six separate RODs for Site 300, one for each cleanup area.

Community Background

Community Profile

Site 300 is remotely located in the Altamont Hills, on the west side of the San Joaquin Valley. The site straddles the Alameda-San Joaquin County line, with the majority of the site in San Joaquin County. The site is surrounded by ranch land, a motorcycle recreational facility, California Department of Forestry land, and California Department of Fish and Game land.

Tracy is the closest city to the site, approximately 8 miles to the northeast. The City's history dates back to 1878, when the area that is now Tracy became a crossroads for new Central Pacific Railroad lines running through the San Joaquin Valley. Pioneers from the East made their homes around the Tracy area, dry-land farming wheat and barley. Tracy flourished as a railroad hub and a center for the Valley dry-farming industry. The population of Corral Hollow Canyon, where part of Site 300 is now located, expanded rapidly at the turn of the century, when a coal mine at Tesla and later a pottery and brick works at Carnegie supported almost 2,000 people. The bricks from the Carnegie works helped rebuild much of San Francisco after the 1906 earthquake. The factory was shut down before World War I.

With the advent of irrigation in the San Joaquin Valley in the early 1900's, agriculture changed quickly from dry land grain crops to dry beans, grasses, corn, sugar beets, tomatoes, fruits, nuts, and dairy farms. Today, Tracy's economy is a mix of agriculture, manufacturing, and warehousing and distribution. Tracy is a center for processing of agricultural products, notably tomatoes and sugar beets. The H.J. Heinz Company's tomato processing plant opened in 1945, and still plays an important role in Tracy's economy. The Holly Sugar Corporation processes sugar beets grown in the area, and the Leprino Cheese Company produces mozzarella cheese. These food processing industries are the major manufacturing employers in the Tracy area. Two other important manufacturers in Tracy are the Owens-Brockway glass plant and the Inland Container corrugated box factory.

Tracy's location near three interstate freeways (I-580, I-205 and I-5) and railroad lines makes it an important warehousing and distribution center. The Tracy Defense Depot, a military supply facility, is the largest single employer in Tracy, with almost 2,000 workers. Two new facilities are expected to locate in the Tracy area—a Yellow Freight Systems trucking center that may employ up to 900 people and a Safeway Stores regional grocery warehouse.

Tracy's population is growing rapidly, with a projected population for 1995 of approximately 48,000 people. In 1989, the population was estimated at 32,000. Commuters moving from the San Francisco and East Bay metropolitan areas in search of more affordable housing have almost tripled Tracy's population since 1970.

Increased development throughout the Valley has become a major concern to area residents as prime agricultural land is converted to housing, retail, and industrial space. There are strong opinions on both sides of the growth issue in the Tracy area. Developers are now looking to locate new housing projects in the hilly regions (such as the area surrounding Site 300), in order to avoid the agriculture versus housing conflict.

The Tracy community is characterized as "conservative" by residents. Residents stated that community members are not likely to organize active groups to address particular issues unless the community is directly affected by the outcome of the decisions being made. Tracy residents are proud of their close-knit community, and actively participate in numerous civic and social clubs and church groups, seeking to preserve Tracy's small-town appeal. The highlight of Tracy's many

celebrations is the annual California Dry Bean Festival, held in August to celebrate the city's agricultural heritage.

The Livermore-Amador Valley area, over the hills to the west of Tracy, is not directly affected by Site 300 activities, but some community members there do have a broad interest in the site as part of the Laboratory's operations. The population, development, and economy of the Livermore-Amador Valley has been greatly influenced in the past by the number of people employed by LLNL, the large annual payroll of the Laboratory, and the industry and commerce generated by LLNL. The Laboratory continues to be one of the major employers in the Livermore area.

Critics of LLNL in the Livermore area have organized watchdog groups to monitor LLNL's activities. Two groups are known to be currently active in Livermore: Tri-Valley Citizens Against a Radioactive Environment (Tri-Valley CAREs) and LabWatch.

Site Neighbors

The area surrounding Site 300 is sparsely populated. Some of the ranches near the site have been in the same family since the days of the pioneers. These properties are still operating as cattle ranches. In addition to the ranches, the major land use near the site is the State of California's Carnegie State Vehicular Recreation Area (SVRA), across Corral Hollow Road from Site 300. Carnegie SVRA is used predominantly by dirt bikers who ride up and down the hillsides.

The Tracy Hills housing project is a potential neighbor of Site 300 to the north and east. Other proposed housing projects have been scrapped in the past, notably the Carnegie New Town housing project. That development was stopped for a number of reasons, including community opposition, water supply problems, and the presence of San Joaquin kit foxes (an endangered species) on the proposed project site. There is a sense among the current neighbors of Site 300 that the Tracy Hills project will prove to be incompatible with ranching operations and with testing of high explosives at Site 300. Ranchers believe that new residents could disrupt their livestock operations by taking down fencing and using firearms on their property. In addition, there is concern among developers that testing at Site 300 could break windows in houses located near the site, or could pose hazards if residents wandered onto Site 300 property.

History of Community Involvement

Site 300's position in the Tracy community and the local area has fluctuated over the years between obscurity and infamy. The Tracy community has shown interest in site-specific issues in the past, and how developments at Site 300 might affect their daily lives. The Livermore community has a more general interest in Site 300 operations as they relate to overall LLNL program activities. The issues and activities in which the community has participated to date are described below.

Site 300 Expansion

In 1986, LLNL proposed to expand Site 300 for use as a testing ground for Star Wars laser systems. The Army Corps of Engineers sought to condemn approximately 30,000 acres of surrounding ranch land for use by Site 300. The proposed expansion was not supported by the neighboring ranchers, the agricultural community, peace groups, or environmental organizations. The above groups formed the Corral Hollow Farmers' and Ranchers' Coalition to oppose the Site 300 expansion. In response, the San Joaquin County Board of Supervisors passed Resolution R-86-553 in support of the Coalition's position. The conflict between the Laboratory and the Coalition received media attention, with feature stories in the *San Francisco Chronicle's Focus Magazine* and other area papers.

The proposal for the Site 300 expansion was dropped later in 1986, and the testing ground was subsequently sited in another state. The Corral Hollow Farmers' and Ranchers' Coalition disbanded following the withdrawal of the project from consideration.

Tritium Releases from Open-Air Explosives Testing

Site 300 received attention from the news media and an environmental group as a result of information that approximately 21,000 Curies of tritium had been released into the air over a 15-year period at the site, from 1963 to 1978. The releases were due to the practice of open-air testing of high explosives using simulated weapons components. This information was reported by the press in August 1990 in conjunction with information about two accidental releases of tritium at LLNL Main Site that occurred in 1965 and 1970. News stories reported that community members were concerned at the time that the cumulative tritium releases could pose a health threat. The stories also quoted LLNL scientists as asserting that the Site 300 tritium releases posed no threat to public health. LLNL stated that the maximum possible amount of individual exposure to the tritium could not have caused an increased cancer risk, according to accepted medical and research standards and risk assessment modeling.

Testing of Offsite Monitoring Wells

Many of the immediate neighbors of Site 300 have been involved with site activities since the installation of ground water monitoring wells on their properties beginning in 1988, and the testing of water quality in their existing supply wells and springs. All the neighbors stated that their relationship with the Laboratory has improved markedly since the "Star Wars battle." Area residents with monitoring or supply wells and springs on their properties receive quarterly reports from LLNL on the results of testing for contaminants. Drinking water supply wells are tested on a monthly basis to monitor water quality.

Site Tours

Members of the local, regional, State, and Federal governments have been on tours of the site, particularly around the time when the Carnegie New Town housing development was being proposed for an area near the site in 1985.

Since that time, site tours have been conducted as needed, when requests have been received. A special tour was given for the media in December 1990 to discuss the recently-discovered active strand of the Carnegie Fault, a fault that lies along the southern edge of the site.

Fault Briefing and Press Release

Following the discovery of the potentially-active strand of the Carnegie Fault on the site, LLNL project staff held three separate briefings on the discovery. Information was presented to employees at the site, to Site 300 neighbors, and to the media, accompanied by a press release. The discovery of the fault was covered in local and regional newspapers.

Other Media Coverage

Coverage of events at Site 300 has been sporadic over the years since testing began, with most coverage given to major events related to possible pollution problems and the potential site expansion discussed above. Although coverage has not been regular, most community members rely heavily on local newspapers for information about the site, according to those people interviewed for this CRP. The *Tri-Valley Herald*, the *Tracy Press*, and the *Valley Times* provide the most news about Site 300 activities, with more occasional pieces in the *Livermore Independent*, the *Modesto Bee*, and the regional newspapers. Major articles were devoted to the addition of Site 300 to the Federal Superfund list in August 1990.

Information Letter

Prior to the start of ground water cleanup in the eastern GSA area of the site in March 1991, LLNL sent out a letter to community members giving them information about the upcoming removal action. Two public notices were published in local newspapers announcing the availability of

technical documents related to the eastern GSA cleanup, and the start of the public comment period on this cleanup. Appendix D contains copies of public information that has been distributed to date.

Public Comment Period and Public Hearings

The public was given an opportunity to comment on the issuance of an NPDES permit for LLNL for the discharge of treated ground water to Corral Hollow Creek during the cleanup in the eastern GSA. That permit application was uncontested, and was approved in late February 1991. One written comment was received from the public regarding the effects of the treated water discharge on the Carnegie SVRA. Since the discharge from the treatment unit will be downstream of Carnegie SVRA, the treated ground water discharge will have no effect on the area.

The public was also given an opportunity to comment on a RCRA Part B permit application and Negative Declaration (made under authority of the California Environmental Quality Act) for the Laboratory's Hazardous Waste Container Storage and Treatment Facility at Building 883. Fewer than ten people commented on the application and the permit was approved by the EPA and the California EPA in September 1989.

On January 30, 1991 the EPA and the California EPA conducted a public hearing on the Laboratory's proposed Closure/Post-Closure Plan for Landfill Pits 1 and 7. Although no public comments were presented at the hearing, five written comments were received by the EPA/California EPA during the 30-day public comment period. The EPA/California EPA approved the plan in March 1991.

Results of Community Interviews

Interviews with interested community members, elected officials, agency representatives and citizens' groups form the basis for this CRP. Community relations specialists under contract to LLNL conducted 39 interviews from January through March 1991. The interviews provided an opportunity for interested individuals and groups to discuss their concerns and questions about the Site 300 cleanup. These concerns were recorded during the interviews and are summarized below.

As work progresses at the site, community relations staff will continue to monitor the level of community concern. If concerns change, this CRP may be modified to better address new concerns.

The following types of individuals and groups were interviewed for this CRP:

- Neighbors of Site 300, including ranchers, businesses, the State Department of Parks and Recreation, and the State Department of Forestry;
- Members of the Tracy community;
- City of Tracy officials;
- Other local elected officials;
- Federal and State elected representatives;
- Federal, State, regional, and local agency representatives;
- Environmental and peace organizations; and
- Laboratory employees.

A complete list of persons interviewed for the preparation of this Plan is provided in Appendix A. Appendix B lists the questions that were asked during interviews.

Issues of Importance to the Community

Eastern GSA Removal Action

During interviews, community relations staff asked questions about the removal action taking place at the site beginning in early March 1991 and continuing at the present time. This removal action includes the pumping of contaminated ground water in one portion of the GSA followed by treatment of the water by an air stripper to remove contaminants. Treated water is discharged to Corral Hollow Creek, and contaminants in the vapor are removed from the system by a carbon filter before the vapor is discharged to the atmosphere.

Concerns specifically related to the removal action are discussed below. These concerns are similar to the types of concerns expressed about the overall site cleanup.

1. Effects of the Contamination on Water Quality

Neighbors expressed concern that the contamination in the ground water could threaten their own water supplies. People in the area use well water for drinking and well water and spring water for their livestock. There are no alternate water supplies currently available on these properties.

2. Effects of the Treatment System on Water Flow

Some neighbors also are concerned that the treatment system for the GSA may decrease the amount of water available to them. They are concerned that pumping the ground water out of the ground for treatment will cause a decrease in ground water flow into their wells and out of their springs. One rancher in particular mentioned that he has a very limited supply of water at present, and any further depletion could cause shortages on his property. Water availability concerns have been exacerbated by the current 5-year drought.

A U.S. Fish and Wildlife Service representative expressed concern that the discharge of treated water to Corral Hollow Creek, a stream that is now dry, could cause a marked change in the habitat there. If the discharged water creates a constant stream flow, the representative was concerned that fish may come into the area and threaten the populations of frogs and salamanders that currently inhabit the stream bed. In addition, she is concerned that once the treatment is completed and the discharge to the creek bed is halted, the area will return to its original state, further disrupting any new plant and animal species that may have moved into the area. This concern was satisfactorily addressed in further discussion with the U.S. Fish and Wildlife Service. Discharge from the treatment system infiltrates less than 100 ft downstream from the discharge point, and no new habitat will be created.

3. Safety of the Carbon Filtration System

An environmental group representative expressed concern over the method by which carbon filters would be connected to the treatment system to ensure that no contaminants escaped into the atmosphere during air stripping treatment of the contaminated ground water.

The group representative also expressed concern about the method of disposal or regeneration of the used carbon filters. Specifically, their representative wondered if the filters would be incinerated.

Overall Site 300 Contamination and Cleanup Activities

1. Water Quality

The overwhelming concern for those interviewed is the potential for contamination of drinking water supplies, both in the immediate vicinity and in the Tracy area as a whole. Neighbors of Site 300 are concerned about the safety of their own drinking water and livestock water supplies, as discussed above.

City of Tracy officials and agency representatives are concerned about the possibility of Tracy's City water supply being affected by the problems in the ground water at Site 300. They are worried that, because Site 300 and the City of Tracy share the same watershed, the contaminants could affect City water.

2. Water Availability

The same concerns were voiced in reference to the overall site cleanup as for the removal action described on page 27. Namely, the neighbors of Site 300, particularly the ranchers, are concerned about continuing availability of water for their livestock.

If all the ground water contamination were cleaned up by pumping the water out of the ground, ranchers are concerned that this would reduce production in their wells and springs. They are concerned that they would not have adequate water supplies to meet the needs of their livestock.

The U.S. Fish and Wildlife representative was concerned that discharges of treated water to the Corral Hollow Creek could cause a change in habitat, discussed in detail on page 27.

Tracy relies on approximately 14 wells to provide its water. According to the Director of Public Works, that water system's capacity provides just enough water for the current population. If Tracy were to lose any of this supply because of contamination, the City might not have sufficient water to meet growing demands. (The Tracy water-supply aquifers are not connected to the contaminated aquifers at Site 300.)

3. Health Risks Associated with the Contamination

Many of those people interviewed stated concern for the potential health effects that could result from exposure to contaminants, either through contact with soil, ground water, or air. There is concern for the safety of both the community-at-large, the workers at the site, and on neighboring properties.

Site 300 employees had a generally low level of concern about Site 300 contamination as it relates to their personal health and safety. One Site 300 employee interviewed, however, mentioned a broader concern for his risk of contracting cancer, citing the relatively higher incidence of melanomas (a type of skin cancer) among Laboratory employees. This higher incidence of melanoma has not yet been explained. Currently, researchers have found no evidence to suggest that the excess melanomas could be attributed to work-related activities or exposures.

Specific concern was stated by some interviewees about the health risk posed by radioactive contaminants (tritium in soil, ground water, and air). The concern centers around the perception that radioactive material would tend to stay in the environment, posing a continuing hazard to the community. People concerned about the radioactive substance wonder what levels of radiation are present in soil and ground water at the site.

In a related issue, some people mentioned having read newspaper articles about releases of tritium into the air as a result of the normal testing operations at the site. At the time of the newspaper articles, in August 1990, this information caused a great deal of concern among community members about possible increased risks of contracting cancer as a result of these tritium releases.

4. Land Use

Land use and growth issues are important topics in the Tracy area and the San Joaquin Valley as a whole. Site 300 has been caught in the middle of the debate because of its proximity to the proposed Tracy Hills housing development project. The Tracy Hills project would be located directly to the north and east of Site 300.

Real estate representatives connected with the Tracy Hills project and proponents of the development among elected officials are concerned that the contamination at the site and its cleanup could postpone or derail the housing project. Specifically, they worry that the contamination could spread through the ground water to the housing project area. In that case, they expressed concern that spread of the contamination could threaten potential water supplies, or it could require cleanup activities on proposed project land. Another concern is that the cleanup technology chosen may interfere in some way with the commencement of the housing project. Additionally, real estate developers are concerned that the events in the Persian Gulf will spur an increase in testing at Site 300, making noise levels too high for residential development nearby.

Some neighbors of Site 300 who oppose development in the area are concerned that the housing will not be compatible with current land use, especially livestock operations. They see LLNL activities at Site 300 as being compatible with their ranches, and want it to remain active in its current location to discourage further development of the area.

5. Availability of Information

The cross-section of LLNL Site 300 employees who were interviewed have general information about the contamination problems, which they believe result primarily from past waste disposal practices.

Employees stated that the Laboratory was making a much better effort to keep them informed than it had in the past, and attributed their increased satisfaction to the openness of managers in charge at Site 300. However, employees stated that they continue to get information about activities at the site from the newspapers or neighbors before they hear news from the Laboratory itself, and expressed some frustration that they do not get up-to-date information before LLNL releases it to the public and the press. Many of those interviewed believe that the Laboratory puts out printed information too frequently, so that important announcements get lost in a sea of paper.

Most stated that they read the LLNL newspaper, *Newsline*, only infrequently, and that LLNL employees overall do not consider it to be a reliable source of information. They suggested that overall site employee meetings (e.g., the briefing held to discuss the discovery of the Carnegie Fault), and announcements through managers would be more useful in getting the information to them.

The neighbors of Site 300 who participated in interviews are generally very pleased with the efforts the Laboratory has made to keep them informed about activity at the site, and stated that they receive regular reports on the status of the cleanup project. While many of them have a general knowledge of the contamination problems at the site, the majority of neighbors are not familiar with the specific nature of the contamination.

Those interviewees outside the immediate vicinity, however, expressed concern about the availability of timely, accurate and complete information on Site 300. These individuals receive a large portion of their information from the media, and most have little or no contact with Laboratory staff.

Members of an environmental group, two activist organizations, and an elected official's staff member expressed concern that they receive only partial information, or inaccurate information, from the Laboratory. They are concerned that, in their opinion, the veil of "national security" too often leads to LLNL's withholding of important information. Their opinion is not specific to Site 300, but is based on their overall dealings with the Laboratory on LLNL Main Site issues and LLNL's general operations.

Elected officials and their aides are particularly concerned that they receive information in a timely manner. In their capacities as important sources of information for the community, they requested that their offices be given notice of any activities at the site prior to the release of information to the press and the public.

Only one aide to a State official remembered receiving public inquiries about Site 300 specifically. The aide stated that several community members and one member of the press had called the office about contamination problems at Site 300 and their potential health effects. In response, the office requested information from the Laboratory. A LLNL representative visited the office, but contact since that time has been very irregular. Although the office (at the aide's request) was put on the State agency mailing lists, the aide expressed frustration that mailings from the State had ceased to come to the office after only a few months.

Many of those interviewed are of the opinion that a large percentage of the Tracy community doesn't know that Site 300 exists, or is not familiar with its operations. According to several of the commentors, a lack of information about the site (e.g., infrequent media coverage) has contributed to the lack of interest in site cleanup activities.

6. Opportunities for Public Participation

An environmental group representative expressed concern that the public be given opportunities to provide input to the decision-making process in the earliest stages, when possible cleanup technologies are being explored. The representative based this comment on the group's experiences with LLNL's Main Site Superfund.

In the opinion of the environmental group members, too few technologies are considered for use in cleanups, and they believe that the initiation of pilot studies on a certain technology biases the decision-makers in favor of that technology. They are concerned that the initial report on cleanup methods under consideration should describe the entire range of technologies that could be used for the cleanup, and that these technologies should be evaluated objectively.

In addition, the environmental group representative expressed concern about public knowledge of the availability of Technical Assistance Grants, or TAGs. The group would like the Laboratory to make a greater effort to inform the public that grants are available for community groups that wish to hire a technical adviser. (See Appendix H for information on the TAG program.)

7. Air Quality

A representative of the San Joaquin Air Pollution Control District is concerned that the treatment of contaminated ground water using air strippers or similar devices could result in contaminants being released to the atmosphere.

8. Agency Oversight

A representative from the San Joaquin County Health Services requested that the organization be given an opportunity to review all permit applications made by the Laboratory for Site 300 activities. County Health Services does review and issue permits for offsite well drilling at Site 300.

9. Liability of Others for Offsite Contamination

A business near Site 300 voiced concern that, if contamination moves from Site 300 onto its property, it may be held liable for cleanup of that portion of the contamination.

10. Issues not Directly Related to the Site 300 Cleanup

Potential Effect of the Newly-Discovered Fault. One community member questioned how the fault discovered at Site 300 in 1990 would affect site safety in general.

Impacts of Laboratory Operations on the City of Livermore. One Livermore official noted that the relationship between the City and the Laboratory has improved markedly over the past several years. The official noted that many of the City's concerns about the possible impacts of Laboratory activities on the City's finances had been addressed. The official expressed continuing concern about the possibility of protests against the Laboratory and the involvement of the Livermore Police Department in peace-keeping efforts, either at LLNL Main Site or at Site 300.

Summary of Current Community Concerns and Level of Interest

Community interviews indicated that there are five major issues centered around Site 300 contamination and cleanup. These issues include the following:

- Overall quality of ground water in the Tracy watershed;
- Water quality and availability in the immediate vicinity of Site 300;
- The potential effects of contamination at Site 300 on community health;
- Availability of information about the site; and
- Site issues as they relate to the issue of growth in the Tracy area, and specifically the Tracy Hills development project.

Parties interested in the site can be divided into six categories, each with a specific set of concerns and level of interest. The first group is the **neighbors** around Site 300, including ranchers, businesses, and State of California land management areas. This group has had the greatest amount of contact with Laboratory staff and has the greatest understanding of the problems and activities at Site 300. Neighbors are in general pleased with their relationships with the Laboratory, and show a low level of concern about site activities overall. Their major concern is the quality and availability of water supplies, although no neighbor expressed anxiety about water supplies. Most voiced confidence that the Laboratory is taking care of contamination problems responsibly and thoroughly.

The second group is the **wider community** around the site, including residents of the Tracy area, local agency representatives, and local elected officials. In general, this group exhibits a very low level of knowledge about site problems and site activities. The level of interest also is extremely low. It was suggested by several people interviewed that there may be some connection between level of interest and level of knowledge about the site. The concerns of the wider community are the potential effect of Site 300 contamination on Tracy's water supplies, the possible health effects associated with the contamination, and the effect of contamination and cleanup activities on the Tracy Hills project.

Elected officials form the third group. Their offices, with only a few exceptions, have little information about activities at Site 300. There is high interest in being kept abreast of developments at the site since they must be ready to provide information to their constituents and to reporters. The major concern expressed is a need for accurate and timely information. In addition, elected officials voiced general concern for area ground water quality and health.

The fourth group consists of the **regulatory agencies**. Knowledge about the site varies considerably in this group, depending on the level of involvement in permitting and oversight of Site 300 cleanup activities. There is a high level of interest in site activities. Concerns are generally specific to the particular agency's expertise. For instance, the San Joaquin Valley Unified Air Pollution Control District voiced concern that air quality may be affected by air stripping treatment of ground water. Agencies involved only peripherally in the site cleanup were interested in receiving more detailed information about the cleanup project, anticipating that they may be asked to provide comments on technical documents or answer questions from the public in the future.

Environmental organizations and peace activist groups make up the fifth group. This group exhibits the highest level of concern about Site 300. They have a limited knowledge of site problems and cleanup plans, and in general they base their concerns on interactions with the

Laboratory on issues other than Site 300. These issues include the type of work in which the Laboratory is engaged, and the cleanup that is underway at the LLNL Main Site in Livermore. This group is especially concerned about the availability of timely and accurate information. Representatives also voiced concern for water quality and health around the site and in the Valley as a whole.

The sixth group is made up of **LLNL employees, and specifically those stationed at Site 300.** Those people not directly involved in cleanup activities have a basic level of understanding about the contamination. Employees have a generally low level of concern about the contamination problem at the site as it relates to personal health and safety and overall environmental health. They are most concerned about being informed about activities and events prior to the information's being released to the press or the public.

The level of community interest in Site 300 is very low at present, with the exception of environmental and peace groups involved with the Laboratory on other issues and the agencies involved in the cleanup. Four factors may play a role in this current low level of interest. (1) There is a considerable confidence in LLNL's ability to handle the cleanup among those living nearest the site, based in part on their positive interactions with the Laboratory in the past. (2) The contamination problems at the site are perceived to be less critical than the Superfund listing would imply, according to many of the neighbors and agency representatives. (3) There is a general lack of knowledge about the site, which may contribute to the lack of interest by the Tracy community. (4) Numerous other hazardous waste sites are currently being remediated within the Tracy City limits, which may create the perception among Tracy residents that Site 300 is just one site among many that require cleanup.

The LLNL Site 300 Community Relations Program

Highlights of the Community Relations Program

The community relations program for Site 300 provides a process for public participation in cleanup decisions about Site 300 whereby the community can ensure that the investigations and decision-making process are being conducted openly, in the public interest, and in compliance with all appropriate regulations. The program seeks to provide interested members of the public with understandable and timely information about the cleanup, in order to enhance their ability to participate fully in the decision-making process. This program is tailored to the specific needs and concerns of the community, identified by community members through the interviews conducted during the preparation phase of this CRP.

The goals of the Site 300 community relations program are as follows:

1. Provide accurate and timely information to interested members of the community;
2. Provide for an open dialogue on Site 300 environmental cleanup issues between the Laboratory and the public, and a means to factor community concerns into the ongoing environmental investigation;
3. Continue to work closely with the neighbors of Site 300;
4. Be responsive to the special information needs of elected officials, agency representatives, and interested members of the public, including environmental and peace activists;
5. Seek to increase the level of understanding in the community with regard to Site 300 cleanup plans;
6. Inform Site 300 employees about all cleanup activities being planned and conducted at the site before information is released to the press and the public;
7. Respond to changes in community concerns and interest levels; and
8. Integrate the Site 300 CRP into LLNL's overall community relations and environmental communications effort.

The activities LLNL will undertake to meet these goals are explained in the pages that follow.

Community Relations Goals and Activities

1. Provide accurate and timely information to members of the community.

Members of the community expressed interest in being kept abreast of developments at Site 300 during the cleanup process. Those persons interviewed were interested in getting more information about the site and the problems associated with the contamination.

Information Repositories and Administrative Record. The Laboratory has established two main information repositories and one auxiliary information repository for Site 300. The main repositories are located at LLNL's Visitors' Center at LLNL's Main Site in Livermore, and at the Tracy Public Library. The auxiliary repository is located at the Stockton Public Library. The main information repositories contain the key technical documents produced for Site 300; a copy of this CRP; and all public information (fact sheets, public notices, etc.) that pertains to environmental cleanup activity at Site 300. As new documents become available, they will be added to the documents at the main repositories. The auxiliary repository in Stockton was established at the request of decision-makers in the Stockton area, to provide them with easier access to materials. The auxiliary repository contains key technical documents and all public information distributed about the Site 300 cleanup.

There is an index in each repository that lists all the documents available for review. The index is updated quarterly. For more information about the locations and hours of the repositories, please see Appendix C.

In addition to the information repositories, an Administrative Record for the site will be established at LLNL's Main Site that contains all the documents and correspondence that pertain to the decision-making process for Site 300, including correspondence between the Laboratory and regulatory agencies; technical documents; and supporting material such as EPA methodology documents. The Administrative Record is kept in the Visitors' Center Repository on microfiche. An index to the Administrative Record will be kept at the Tracy and Stockton information repositories.

Fact Sheets and Other Publications. The Laboratory will distribute community information at all important technical milestones in the cleanup project. The points at which fact sheets will be issued include the completion of the PRAPs for site cleanup areas, the start of any removal actions, and whenever there is important new information available. Fact sheets will include a list of any related technical documents, so that members of the community may review the documents at the information repository if they would like more detail. Fact sheets also will include the name of the Laboratory contact person who can answer questions about the information provided in the fact sheet.

Copies of Documents. The Laboratory will provide any interested individuals or groups with copies of primary technical documents upon request.

News Media Contact. The Public Affairs Department at the Laboratory will provide local news media with up-to-date information on site environmental cleanup activities. Community members identified the *Tracy Press*, the *Modesto Bee*, and the *Tri-Valley Herald* as the most widely-read publications. Public notices of upcoming public hearings and comment periods will

be placed in these three local newspapers. Notices will be written in understandable language, avoiding the use of acronyms and technical terms where possible.

Important events at the site, such as the start of cleanup in an area or the approval of a permit, will be announced in news releases. Each release will be distributed to all area news media (see Appendix E for a list of these media). The release may be accompanied by a news conference on-site or offsite, as appropriate.

Briefings, Meetings, and Presentations. The Laboratory will make staff available for briefings, meetings, and presentations to interested groups on an ongoing basis, and especially when important new environmental cleanup information is released. Laboratory community relations staff will call key community representatives (identified in Appendix E) to offer presentations on site activities.

2. *Provide for an open dialogue on Site 300 environmental cleanup issues between the Laboratory and the public, and factor community concerns into the ongoing environmental investigations.*

Opportunities for public participation in the decision-making process at a Superfund site are built into the Federal Superfund program. LLNL will seek to enhance these opportunities by encouraging the public to participate in comment periods on technical documents and cleanup plans for the site. LLNL will take public comments into account in conducting the continuing investigation and cleanup operations at Site 300.

Comment Periods and Public Meetings. At decision-making points in the cleanup process, the Laboratory is required by Superfund and NEPA regulations to hold a public comment period. During the comment period, community members have an opportunity to voice their support for or concerns about activities planned for the site, either verbally at a public meeting or in writing. The Laboratory is required to consider public comments when preparing final decision documents. Actions described in draft documents may be modified in the final versions to address the concerns of community members, or explanations for leaving actions unchanged must be provided.

LLNL will publish a notice in local newspapers to let the community know when new FONSI and PRAP documents are available. The notice will include information on the dates of any comment period and the date, time and place of any public meeting that is scheduled on the matter. Notices will give the name of a contact person and the address where written comments can be sent.

When pre-decision documents are issued for the site PRAPs, at least one public meeting must be held to receive comments from the community. Since Site 300 is divided into eight separate cleanup areas, there will be multiple PRAP documents and comment periods. Because the community stated a strong preference for a small number of meetings, LLNL will combine meetings on related cleanup areas or technologies into one public meeting when possible.

In addition to the required comment periods and public meetings, LLNL will accept and consider comments on draft and final documents and other Site 300 activities at any time during the cleanup process. LLNL has designated Bert Heffner in LLNL's Public Affairs office as the community contact person (see page 4).

Although it is not a requirement, LLNL will make draft versions of RI and FS documents available to the public for review prior to their finalization. The LLNL spokesperson will take informal comments on the documents, and these comments will be taken into account when preparing final versions of the documents. The draft RI/FS documents will be placed in the Information Repositories as they become available.

Responsiveness Summary. Following public comment periods on PRAPs, LLNL will prepare what is known as a Responsiveness Summary. The Responsiveness Summary includes a summary of concerns raised by the community during the comment period and LLNL's response to those concerns. The Responsiveness Summary will be included in the final decision document, called the ROD. The ROD describes the cleanup method that has been selected for an area of the site, and is approved by the EPA prior to release.

Information Sessions. LLNL will hold informal information sessions to answer community members' questions. The need for sessions will be determined through the already established contact with the community during technical sampling activities on properties adjacent to the site, and through periodic conversations with community representatives. Information sessions will allow LLNL staff to be available for several hours to accommodate the varying schedules of community members.

Access to Project Staff. LLNL will make the telephone number of the community relations contact person available to the community. Community members will be able to telephone this contact for more information about Site 300. Technical questions on the environmental restoration will be referred by the contact person to appropriate project staff. The contact will be listed on the last page of all public information distributed.

3. Continue to work closely with Site 300 neighbors.

Neighbors of Site 300 are indirectly affected by activities at the site. Monitoring wells are located on neighboring property, and Environmental Protection Department (EPD) staff regularly sample these wells. Neighbors are pleased with LLNL's efforts to keep them informed about developments, and are eager to have this contact continue.

Mailings. The Laboratory will maintain its communications with the surrounding community by continuing to provide them with well monitoring data and related information by mail. Significant upcoming environmental restoration activities (e.g., the start of the eastern GSA removal action) will be announced to the neighbors in letters from the Laboratory that will provide the telephone number of the Laboratory contact person who is available to answer any questions.

Meetings, Tours, and Other Personal Contact. The Laboratory will continue to hold one-on-one or small group meetings with neighbors, either at Site 300 or at other locations convenient to all parties. The Laboratory will provide neighbors with access to Site 300 environmental cleanup staff by identifying the Laboratory contact person and through regular EPD staff visits to neighboring property during scheduled ground water sampling. Site tours on environmental restoration will continue throughout the cleanup process for interested parties. The site tours will be arranged and approved by the Resident Manager's office for groups of three or more people at a time. Tours will be conducted when Site 300 operations permit, and when staff are available to conduct the tours. The EPD will continue its ongoing dialogue with Site 300 neighbors (e.g., during regularly-scheduled sampling operations).

4. Be responsive to the special information needs of elected officials, agency representatives, and interested members of the public, including environmental and peace activists.

Different groups of people are interested in Site 300 for different reasons, and each group has its special information needs. Some of the people particularly interested in the site, although they may not be directly affected by it, are the elected officials whose constituents live in the area, the regulatory agency staff involved in permitting activities at the site, and environmental and peace activists who are interested in broad issues related to the site and the environmental cleanup.

In their role as information sources for the community, it is important that elected officials and agency staff be provided with information prior to its release to the public or the media, if possible so that they can answer questions from constituents, or direct those questions to the appropriate person at the Laboratory. Several officials' staff mentioned that they had no regular contact person at the Laboratory whom they could call with questions.

Several groups interviewed commented that technical documents are too difficult to understand, but that fact sheets do not contain enough detail to satisfy their needs. These groups requested more technical information about the site. Officials, agency staff, and activists are especially concerned about receiving information at the earliest possible time.

Letters, Telephone Calls, or Faxes before Press Releases. The Laboratory will do its best to keep all interested officials and agency staff fully informed. Whenever possible, advance copies of letters or fact sheets will be distributed via mail or fax. If information is time-critical, the Laboratory will make telephone calls or send faxes to these offices to inform these groups of activities at the site. A list of fax and telephone numbers will be maintained by the Laboratory.

Meetings and Presentations. The Laboratory will continue to offer presentations about the site cleanup to any interested groups, including city councils, the County Board of Supervisors, and agency groups. Laboratory staff will periodically contact these groups to see if they would like to schedule a presentation. These presentations will be tailored to suit the information needs of particular groups.

Site Tours. The Laboratory will continue to offer site tours to any groups interested in learning more about the site environmental cleanup activities. Tours will be available subject to site conditions and staff availability.

Technical Information. The Laboratory will provide Executive Summaries of technical documents to groups interested in receiving more technical information. Summaries will be mailed out in conjunction with fact sheets, or will be sent out separately as appropriate.

Special LLNL Contact Person. The Laboratory will improve information availability and consistency by designating one person to handle inquiries from officials. The Laboratory will send a letter to all officials representing the Site 300 area that names the contact person with address and telephone number.

5. *Seek to increase the level of understanding in the community with regard to Site 300 clean-up plans.*

Tracy is the closest city to Site 300. Many people interviewed suggested that Tracy residents are not aware of the presence of Site 300, or are not familiar with the contamination problems there. Those people concerned about the level of knowledge in and around Tracy suggested that the Laboratory provide more opportunities for the community to learn about the site.

Presentations at Meetings of Other Groups. All members of the Tracy community who were interviewed strongly discouraged the use of meetings whose specific purpose is to inform the community about Site 300. Instead, the Laboratory will focus on integrating presentations on Site 300 as portions of regularly-scheduled meetings. The Laboratory will contact organized groups in the area to offer presentations on LLNL and Site 300 activities (e.g., presentations to Tracy Tomorrow, the Chamber of Commerce, the City Council, Lions Club, Rotary Club, church groups).

Fact Sheets and Other Written Information. In addition, the Laboratory will provide easily-understood written information to the community in the form of fact sheets and newsletters on a periodic basis and at the completion of technical milestones in the cleanup process. To ensure the material is appropriate for the community's interests and technical needs, the Laboratory will identify several community members who will work with LLNL community relations staff on information review. Community members from the interview list will be asked to provide feedback to the Laboratory on the usefulness of the fact sheets. After a fact sheet is sent out, community relations staff will talk with the community members about how well the material met the community's needs for information. Suggestions for changes and improvements will be incorporated into subsequent fact sheets.

Technical Assistance Grant Information. Laboratory community relations staff mentioned the availability of a Technical Assistance Grant (TAG) for Site 300 to those members of the community who participated in interviews; as yet there has been no request for a TAG for Site 300. LLNL will publicize the availability of a TAG grant in the fact sheets that are distributed to the community. Under the TAG program, EPA will provide an interested community group with funds so that the group can hire a technical advisor to help interpret technical information on the site and to monitor site activities. (See Appendix H for information on the TAG program.)

6. *Inform Site 300 employees about all cleanup activities being planned and conducted at the site before information is released to the press and the public.*

Employees are sometimes approached by their relatives or neighbors for information about the site, and would like to have information in order to answer questions knowledgeably. Employees are interested in receiving timely information about site cleanup activities in other than written form. They were particularly interested in getting information through their direct managers, stating that they had much greater trust in information received in this manner rather than through written announcements. Employees have limited amounts of time available to attend meetings, but stated that they would make that effort if meetings were restricted to issues of significance.

Meetings/Briefings. The Resident Manager will use the regularly-scheduled quarterly meetings with all Site 300 employees to brief them on any significant new environmental cleanup information before it is released to the public.

In between the quarterly meetings, the Resident Manager will use the regular weekly meetings with Site 300 managers to update the managers on environmental restoration activities. Managers will be given the responsibility of disseminating information to their staff. Community relations staff will provide managers with presentation aids, bulletin board notices, or newsletters (as appropriate) to assist them in transmitting the information to their staff.

7. Respond to changes in community concerns and interest levels.

Past experience with the Superfund program has shown that community interest in and concern about a site can change very rapidly as cleanup work begins. In this context, it is important to continue to monitor the level of community interest in and concern about the site.

This CRP is a working document, designed to be flexible enough to meet the changing needs of the community with respect to the Site 300 cleanup. If the needs and interests of the community change, this document will be updated to reflect those changes.

Follow-up Telephone Calls and/or Interviews. Laboratory community relations staff will make quarterly follow-up calls to persons who expressed an interest in the site during the initial community interviews. Additional calls may also be made to assure that representative views are received. Staff will discuss any activities in progress at the site and ask about concerns related to these activities.

Following the signing of the ROD documents, LLNL is required to re-evaluate the level of community concern to determine the need for revisions to the CRP. If interest has changed significantly, additional community interviews may be conducted to determine any new community relations program goals. As appropriate, new community relations activities may be developed to achieve these new goals.

Modification of this Community Relations Plan. Following additional community interviews as described above, new community relations activities or different activities may be included in this CRP to meet the needs of the community. All updates to the CRP will be made available to the public at the Information Repositories for the site.

8. Integrate the Site 300 Community Relations Program into LLNL's overall environmental communications effort.

LLNL's overall environmental communications program consists of many components, including the activities conducted in relation to the LLNL Main Site Superfund cleanup, those for the Site 300 Superfund cleanup, and public involvement in the DOE 5-year planning process and in the development of a site-wide Environmental Impact Statement for LLNL. It is important to coordinate these activities in order to prevent conflicts in scheduling of community relations activities, to avoid public confusion, and to present a coherent view of the Laboratory's efforts to involve the public in the decision-making process.

Quarterly Public Affairs Briefings. Community relations staff and contractors will meet at least on a quarterly basis to discuss the the separate community relations programs, and to coordinate future efforts, as feasible and appropriate. Comments from the community with regard to the effectiveness of the Site 300 program will be taken into account when planning new activities or modifying existing ones.

Designated Point Person. LLNL's Manager of Area Relations, Bert Heffner, will serve as the primary-contact person for the overall community relations program. Environmental communications consultants and community relations staff working on Site 300 will keep him informed so that all Laboratory community relations efforts will remain coordinated with respect to goals and timing of events.

Community Relations Activities Schedule

The specific community relations activities that will be conducted for the eastern GSA removal action and the overall Site 300 cleanup are listed in Tables 2 and 3 with the corresponding technical milestones, as well as in Table 4 on page 47. Activities are identified as either required by CERCLA (Superfund), required by NEPA, required by the State, or additional proposed activities that LLNL believes can improve communication between the Laboratory and the public. Many State public participation requirements are the same as the Federal requirements. The activities listed in Table 2 under "Required Activities (State)" only include the activities that are different from Federal requirements.

The overall site cleanup activities are activities that will be conducted for each of the six distinct cleanup areas. As noted previously, LLNL will combine the activities for some of these cleanup areas when it is possible, in an effort to reduce the number of meetings that the public must attend. The time schedule for the site cleanup will be formalized in the Federal Facility Agreement.

Table 2. Community Relations Activities Schedule for the Overall Superfund Cleanup.

Technical Milestones	Community Relations Activities
1. Remedial Investigation/ Feasibility Study (RI/FS)	*Required Activities (CERCLA)* • Establish and maintain information repositories containing technical information, fact sheets, and other site-related documents • Establish Administrative Record • Conduct community interviews and prepare Community Relations Plan (CRP) • Designate a spokesperson to handle inquiries from the public • Publicize availability of Technical Assistance Grant (TAG) *Additional Proposed Activities* • Conduct briefings for Site 300 managers or employees on significant findings during the investigations • Establish and maintain a mailing list of persons interested in Site 300 • Prepare and distribute updates on activities at the Site on a quarterly basis • Establish information review group to aid in the development of appropriate public information materials • Offer presentations on Site activities to officials, community groups, and activist groups • Site tours for interested groups
2. Environmental Assessment/ Finding of No Significant Impact (EA/FONSI)	*Required Activities (NEPA)* • Publish a public notice of the issuance of the FONSI and the availability of assessment documents *Additional Proposed Activities* • Offer presentations to interested groups

Table 2 (Continued).

Technical Milestones	Community Relations Activities
3. Completion of Proposed Remedial Action Plan (PRAP)	*Required Activities (CERCLA)* • Publish a notice about the availability of the RI/FS reports and the PRAPs in a major local newspaper • Provide a 30-day public comment period on the PRAPs • Prepare transcript of public meetings • Update information repositories with PRAPs *Required Activities (State)* • Hold at least one public meeting to receive comments on the PRAPs • Post notices at or near Site 300 about the proposed remedial action • Mail notices about the PRAP to all property owners adjacent to the Site *Additional Proposed Activities* • Briefing on the PRAPs for Site 300 managers or employees • Briefings for officials as needed • Offer presentations to interested groups • Distribute a fact sheet describing PRAPs to the community • Meet with the information review group to go over PRAP fact sheet • Informal meetings with Site 300 neighbors • Press release to local media
4. Signing of Records of Decision (ROD)	*Required Activities (CERCLA)* • Prepare Responsiveness Summaries • Publish public notice in a major local newspaper announcing the ROD signings and the final decisions on the remedial cleanup alternatives • Update information repositories with the RODs • Re-evaluate community interest and revise CRP if needed *Additional Proposed Activities* • Briefing for Site 300 managers • Presentations to officials, community groups • Press releases to local media

Table 2 (Continued).

Technical Milestones	Community Relations Activities
5. Remedial Action Implementation Plans and Remedial Actions	*Required Activities (CERCLA)* • Notify the public if the remedial actions in the RODs change significantly *Additional Proposed Activities* • Briefings for Site 300 managers or employees • Distribute fact sheet that describes upcoming Site activities • Meet with information review group • Informal meetings with Site 300 neighbors • Information sessions for community members, as needed • Site tours for interested groups

Table 3. Community Relations Activities Schedule for the GSA Removal Action.

Technical Milestones	Community Relations Activities
1. Removal Action Preparation Phase	*Required Activities (CERCLA)* • Establish Administrative Record • Designate a spokesperson to handle inquiries from the public *Additional Proposed Activities* • Briefing for Site 300 employees on the removal action • Establish and maintain a mailing list of persons interested in the Site • Prepare and distribute information letter • Offer presentations on removal action to officials, community groups, and activist groups • Site tours for interested groups
2. Environmental Assessment/ Finding of No Significant Impact (EA/FONSI)	*Required Activities (NEPA)* • Publish a public notice of the issuance of the FONSI and the availability of assessment documents *Additional Proposed Activities* • Offer presentations to interested groups
3. Removal Action Implementation	*Required Activities (CERCLA)* • Conduct community interviews and prepare CRP for the removal action • Make Administrative Record documents available to the public no later than 60 days after the beginning of removal action activity • Publish a public notice of the availability of the Administrative Record in a major local newspaper

Table 3 (Continued).

Technical Milestones	Community Relations Activities
	• Provide a 30-day public comment period on the removal action beginning when the Administrative Record is made public • Prepare a written response to significant comments received from the public during the comment period • Include the written response in the Administrative Record *Additional Proposed Activities* • Briefing on removal action progress for Site 300 employees • Briefings for officials as needed • Offer presentations to interested groups • Informal meetings with Site 300 neighbors • Press release to local media

Community Relations Activities	Technical Milestones			
	Remedial Investigation/ Feasibility Study	Completion of PRAP	Signing of Record of Decision	Remedial Action Implementation Plan
1. Information repositories (reports entered as available)				
2. Mailing list (update as needed)				
3. Conduct community interviews prepare CRP				
4. Publication of FONSI				
5. Updates and fact sheets, group review for content (as needed)				
6. Ongoing contact with local and agency officials [Briefings at ◆]				
7. Briefings and announcements to Site 300 employees				
8. Site tours/presentations to interested groups (as needed)				
9. News releases (as needed) / public notices (at ◆)				
10. Informal community meetings (as needed and at ◆)				
11. Public comment period on PRAP (30 days minimum) [public hearing at ◆]				
12. Responsiveness Summary				
13. Revise CRP				

Table 4: Schedule of Community Relations Activities for LLNL Site 300

Appendix A

Individuals Interviewed for the Preparation of this Plan

Appendix A

Individuals Interviewed for the Preparation of this Plan

This CRP is based on interviews conducted between January and March 1991 by ICF Kaiser Engineers, a community relations consultant to the Laboratory. The following people were interviewed:

Individuals

Thirteen individuals were interviewed for the preparation of this CRP.

Community Organization and Business Representatives

Jackie Cabasso
Western States Legal Foundation
(Andrew Lichterman of Western States Legal Foundation also participated in the interview)

Paul Cayere, Manager, Tracy Test Facility
Physics International Company
(The following members of Physics International also participated in the interview: Douglas Mumma, Clay Agee, James Bollick)

Pat O'Brien, President
Sassco Real Estate

Ron Skarka, Vice President
Grupe Development

Mike Souza
Souza Real Estate (former chairman of the Tracy Tomorrow environmental task force)

Dale Steele
Peace and Justice Network

Felicia Wiezbicki
Tri-Valley CARES

Elected and Other Local Officials and Agency Representatives

George Barber, Chairman
San Joaquin County Board of Supervisors

Bill Benner, Administrative Assistant to the City Manager
City of Tracy

Cathie Brown, Mayor
City of Livermore

Ed Campbell, Supervisor
Alameda County Board of Supervisors

Sal Ciriello, Senior Waste Management Engineer
California Department of Toxic Substances Control

Evelyn Costa, Supervisor
San Joaquin County Board of Supervisors

Laurie A. Cotulla, Program Manager, Environmental Health Division
San Joaquin County Public Health Service

Joan Darrah, Mayor
City of Stockton

Gene DeLucci, Chief Deputy Director
San Joaquin County Public Works Department

John Elliff
California Department of Forestry

Ralph Fairfield
California Department of Parks and Recreation

Chuck Flippo, Former Remedial Project Manager, Region IX
U.S. Environmental Protection Agency

Fran Gottlieb, Administrative Assistant
Office of State Senator Patrick Johnston

Lakhmir Grewal, Director
San Joaquin Valley Unified Air Pollution Control District

Mike Higgins, Central Valley Region
California Regional Water Quality Control Board

Ken Hill, Environmental Coordinator, Real Property/Environmental Division
Public Works, San Joaquin Flood Control and Water Conservation District

Dave Lewis, Environmental Assistant
Office of Congressman Pete Stark

Peggy Kohl, Section 7 Coordinator
United States Fish and Wildlife Service

Michael McClusky, Director
Tracy Public Works

Ken Mercer, Mayor
City of Pleasanton

Frank Warren, Mayor
City of Manteca

Appendix B

List of Interview Questions

Appendix B

List of Interview Questions

1. What is your understanding of site problems?
2. How and when did you first become aware of the ground water and soil problem at Site 300?
3. What are your major concerns regarding the soil and ground water problem at the site?
4. What are the community concerns and issues that affect or involve the contamination problem?
5. Have you received any inquiries about the problem? From who? When? Did you refer them to the laboratory or handle them yourself? Have you made any inquiries about the problem?
6. Have you been involved with Site 300 staff and activities?
7. What are the best locations for community meetings? How often?
8. What kind of information regarding the Site would be most useful to you? What is the best way for the Laboratory to provide you with information?
9. What is the best way to provide the community with information? What is the best way to reach those that would be interested in Site activities?
10. How can government best involve community members in the decision making process?
11. Can you suggest other individuals we should contact?
12. What would be the most convenient locations for information repositories?

Appendix C

Information Repositories

Appendix C

Information Repositories

Stockton—San Joaquin County Public Library

Central Branch Library
605 North El Dorado Street
Stockton, CA 95202
(209) 944-8221

Contact: Beverly Hine

Hours of Operation:

M/W/Th:	10 am - 9 pm
T/F:	10 am - 6 pm
Sat:	10 am - 5 pm

Tracy Branch Library
20 E. Eaton Avenue
Tracy, CA, 95376
(209) 835-2221

Contact: Ann Marie Walz

Hours of Operation:

M/Th:	10 am - 9 pm
T/W/F:	10 am - 6 pm
Sat:	10 pm - 5 pm

NOTE: Both Libraries are closed on Sunday and on the second Wednesday of every month.

LLNL Visitors' Center (entrance off Greenville Road)
Lawrence Livermore National Laboratory
P.O. Box 808, L-404
Livermore, CA 94550
(415) 292-9797

Contact: Bert Heffner

Hours of Operation:
Mon. - Fri.: 9 am - 4:30 pm
Sat. - Sun.: Call for hours.

Meeting Location

Tracy Community Center
300 East 10th Street
Tracy, California

Contact: Tracy Parks and Recreation Dept. Phone: (209) 832-1274
Capacity: 500 Persons (435 seated)

This facility is disabled accessible.

Appendix D

Public Information Distributed to Date

Lawrence Livermore National Laboratory

February 28, 1991

Dear Community Member:

In March of this year, Lawrence Livermore National Laboratory (LLNL) will begin a new clean-up program at Site 300, a LLNL testing site located outside of Tracy. LLNL has been investigating potential soil and ground water contamination at Site 300 since 1982. In August of last year, the site was included on the list of nationwide sites to be cleaned up under the federal Superfund program. This upcoming work on one portion of the site is part of LLNL's overall plan to clean up ground water and soil contamination at Site 300. Investigation and/or cleanup activities are also underway at seven other areas of the site.

What's Included in the Cleanup, and Why

This phase of the project (called a "removal action") will remove chemicals from ground water in the eastern General Services Area (GSA) of the site and surrounding offsite areas (see map). The ground water at this location does not pose any threat to public health. Water from nearby water-supply wells is sampled and analyzed every month, and has never shown any contamination.

The contaminated ground water is in a shallow water-bearing zone, about 25 to 35 feet below the ground level. This shallow water is not used for drinking water purposes. Drinking water is pumped from deeper water-bearing zones that are separated from the shallow zone by layers of rock and clay. The rock and clay greatly restrict the movement of water between zones.

LLNL will begin cleanup soon to prevent any further movement of contamination to offsite areas and to protect water quality. The contamination in the eastern GSA has moved into ground water beyond the site boundaries on private and State of California property. The contaminated ground water follows the path of Corral Hollow Creek northward from the site boundary for approximately 4,000 feet (see figure).

The Cleanup Plan

After receiving approval from the Regional Water Quality Control Board (RWQCB) and the Environmental Protection Agency (EPA), LLNL will begin immediate treatment of ground water in the eastern GSA to remove the chemicals that are present. These chemicals are known as volatile organic compounds (VOCs) and have typically been used as solvents in degreasing activities at LLNL.

To prevent the chemicals from moving any further through the ground water, LLNL has installed a well to remove contaminated ground water. This well is near the location of an old debris pile on the site. The debris pile is suspected to be the source of the contamination problem.

Ground water will be pumped out of the ground and then treated in an air stripper to remove the VOCs. The air stripper will force air through the contaminated water, causing the VOCs to evaporate into the air. The air from this treatment process will be passed through a carbon filter to remove the VOCs so that no contaminants are released to the air.

LLNL will monitor and periodically test the treated water to make sure the chemicals have been removed. After testing, the treated water will be discharged into the Corral Hollow Creek streambed. Treatment will continue until the ground water in the eastern GSA area passes State and federal drinking water standards.

Agencies Approve Action

As part of the design and permitting process under the Superfund program and the National Environmental Policy Act (NEPA), LLNL prepared a report describing the clean-up action for this one area of the site. The report includes information on how the project may affect the environment. This information is contained in the *Draft Alternatives Analysis for Eastern GSA / Offsite Interim Ground Water Treatment Facility* report.

After evaluating the potential environmental effects of the project, the Department of Energy prepared a document known as a Finding of No Significant Impact (FONSI). The FONSI shows that the action will have no significant health or environmental impact on the surrounding area. Both documents have been reviewed and approved by the State and the EPA.

Opportunities for Public Comment

LLNL encourages you to comment on what we plan to do during the removal action. The FONSI and its background documents will be available at the information repositories as soon as they are finalized. A public notice in the *Tracy Press* will announce when they are available for review. There are two information repositories for Site 300, located at LLNL's Visitor Center in Livermore and at the Tracy Public Library.

A public comment period for the removal action will be held from May 1, 1991 through July 1, 1991. A notice of the comment period will be published in local newspapers. The notice will include the address where written comments can be sent, and a telephone number you can call to give your verbal comments.

If you have any questions regarding the technical aspects of this ground water treatment action or other clean-up activities at Site 300, please call Milt Grissom, the Resident Manager for the site, at (415) 423-1396.

Sincerely,

Bert Heffner
Manager, Area Relations
Lawrence Livermore National Laboratory

BH:DR:jz
Enclosure
cc:
M. Brown, DOE

bcc:
G. Campbell
E. Draney
D. Fisher
H. Galles
M. Grissom
F. Hoffman
D. Lai
A. Lamarre
W. McConachie
P. Post
J. Tulk

Appendix E

List of Key Contacts

Appendix E

List of Key Contacts

Federal Elected Officials

Senator Alan Cranston

Washington D.C. Office
112 Hart Senate Office Building
Washington, D.C. 20510 (202) 224-3553

District Office
5757 West Century Boulevard
Los Angeles, CA 90045 (213) 642-5086

Senator John Seymour

Washington D.C. Office
902 Hart Senate Office Building
Washington, D.C. 20510 (202) 224-3841

District Office
11111 Santa Monica Boulevard
West Los Angeles, CA (213) 575-6765

Representative John Doolittle

Washington D.C. Office
1223 Longworth House Office Building
Washington, D.C. 20515 (202) 225-2511

District Office
1624 Santa Clara Dr, Ste 260
Roseville, CA 95661 (916) 786-5560

Representative Pete Stark

Washington D.C. Office
1125 Longworth House Office Building
Washington, D.C. 20515 (202) 225-5056

District Office
22320 Foothill Blvd, Suite 500
Hayward, CA 94541 (510) 635-1092

State Elected Officials

State Senator Patrick Johnston

Sacramento Office
State Capitol, Room 2068
Sacramento, CA 95814 (916) 445-2407

District Office
31 E. Channel Street, Room 440
Stockton, CA 95202 (209) 948-7930

State Assemblyperson Dean Andal

Sacramento Office
State Capitol
Sacramento, CA 95814

District Office

Stockton, CA 95202 (209) 948-7479

Local Officials

Alameda County Board of Supervisors
Hall of Administration
1221 Oak Street, Room 536
Oakland, CA 94612

Ed Campbell, Chair (District 1) (510) 795-2525

San Joaquin County Board of Supervisors
222 E. Weber, Room 701
Stockton, CA 95202 (209) 468-3113

Evelyn Costa, Chair
George Barber
William Sousa
Doug Wilhoit

City of Livermore
1052 S. Livermore Avenue
Livermore, CA 94550

Cathie Brown, Mayor (510) 373-3149

City of Manteca
1001 W. Center Street
Manteca, CA 95336

Frank Warren, Mayor (209) 239-8417

City of Pleasanton
200 Bernal Avenue
Pleasanton, CA 94566 (510) 484-8001

Ken Mercer, Mayor (510) 537-4040 x211

City of Stockton
425 N. El Dorado
Stockton, CA 95202

Joan Darrah, Mayor (209) 944-8244

City of Tracy
325 E. 10th Street
Tracy, CA 95376 (209) 836-2670

Clyde Bland, Mayor (209) 835-7110
Michael Locke, City Manager
City Council:
Raymond Morales
Carol Schubert
Dorothy Zanussi

Federal Agencies

Tracy Defense Depot
25600 S. Chrisman Road
Tracy, CA 95376 (209) 832-9000
Colonel Joe Creel, Commander

United States Department of Energy
Lawrence Livermore National Laboratory
P.O. Box 808, L-574
Livermore, CA 94550
Michael Brown (510) 423-7061

United States Environmental Protection Agency
75 Hawthorne
San Francisco, CA 94105
Richard Seraydarian, Remedial Project Manager (415) 744-2388
Mail Code H-7-5 or (800) 231-3075

Dorothy Wilson, Community Relations Coordinator
Mail Code (H-1-1) (415) 744-2179
or (800) 231-3075

United States Fish & Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
Peggy Kohl (916) 978-4866

State Agencies

California Dept of Fish & Game
1701 Nimbus
Rancho Cordova, CA 95670
Art Ramirez — (916) 355-0978

California Dept of Forestry
Castle Rock
P.O. Box 1034 — (No personnel in winter)
Tracy, CA 95376 — (510) 447-0395

California Dept of Forestry
11851 Marsh Creek Road
Clayton, CA 94517
John Elliff — (510) 672-6400

California Environmental Protection Agency
Department of Toxic Substances Control
700 Heinz, Bldg F
Berkeley, CA 94710
Sal Ciriello — (510) 540-3734
Michelle Rembaum — (510) 540-3847

California Dept of Parks and Recreation
Carnegie S.V.R.A.
P.O. Box 1105
Tracy, CA 95378 — (510) 447-9027
Carnegie S.V.R.A.

California Regional Water Quality Control Board
Central Valley Region
3443 Routier Road
Sacramento, CA 95827-3098
Mike Higgins — (916) 361-5653

Local Agencies

California Dept. of Parks and Recreation
7800 Cienega Road
Hollister, CA 95023 — (408) 637-8137
Ralph E. Fairfield, District Sup.

San Joaquin Valley Unified Air Pollution Control District
Box 2009, (2321 W. Washington)
Stockton, CA 95201
Lakmir Grewal, Director — (209) 468-3473
Yogi Khanna

San Joaquin County District Attorney
222 E. Weber St., Rm. 701
Stockton, CA 95202 — (209) 468-2400
Richard Eichenburger

San Joaquin County Planning Division
1810 E. Hazelton Avenue
Stockton, CA 95205 (209) 468-3120
Bruce Baracco
Chet Davisson
Harry Islas

San Joaquin County Public Works
Flood Control and Water Conservation District
P.O. Box 1810
Stockton, CA 95201
Henry Hirata, Director (209) 468-3062

Tracy Municipal Court
P.O. Box 1112
Tracy, CA 95376 (209) 831-5909
Judge James E. Cadle

Tracy Fire Department
835 Central Avenue
Tracy, CA 95376 (209) 835-2525
Ken Lavoie, Fire Chief

Tracy Police Department
400 E. Tenth Street
Tracy, CA 95376 (209) 835-4550
Larry Kissel, Chief of Police

Tracy Public Works Department
City Hall Annex, 520 Tracy Bl.
Tracy, CA 95376
Michael McCluskey, Director (209) 836-4420

San Joaquin Public Health Service
1601 E. Hazelton Avenue
Stockton, CA 95204
Eleanor Ratliff, Env. Health Specialist (209) 468-3454

Lawrence Livermore National Laboratory

LLNL Environmental Protection Department
P.O. Box 808
Livermore, CA 94550
Fredric Hoffman, Division Leader, Env. Restoration Div. (510) 423-4594
Albert L. Lamarre, Section Leader, Site 300 Env. Restoration (510) 422-0757
Bert Heffner, Manager, Area Relations (510) 294-5806

Environmental and Community Groups and Local Businesses

California Council for Environmental and Economic Balance
100 Spear Street, Suite 805
San Francisco, CA 94105
Lisa Bicker (415) 512-7890

CCHW/West
P.O. Box 33124
Riverside, CA 92519
Penny Newman (714) 681-9913

Citizens for a Better Environment
501 Second Street, Suite 305
San Francisco, CA 94107
Michael Belliveau (415) 243-8373

Clean Water Action
944 Market Street, Suite 600
San Francisco, CA 94102
Bruce Livingston (415) 362-3040

Environmental Defense Fund
Rockridge Street Mall
5655 College Avenue, Suite 304
Oakland, CA 94618
David Roe (510) 658-8008

Environmental Health Coalition
1717 Kettner Blvd., #100
San Diego, CA 92101
Diane Takvorian (619) 235-0281

Greenpeace Action
139 Townsend Street, 4th Floor
San Francisco, CA 94107 (415) 512-9025

Grupe Development Company
2291 W. March Lane
Stockton, CA 95207
Ron Skarka, Vice President (209) 473-6155

League of Women Voters
500 St. Mary's Road, Suite 14
Lafayette, CA 94549
P. DeFalco (510) 283-7093

National Toxics Campaign
1330–21st Street, Suite 1202
Sacramento, CA 95814
Michael Picker (916) 446-3350

Peace and Justice Network
P.O. Box 4123
San Joaquin Co. Public Health Services
Stockton, CA 95204
Lourdes Naylor
Dale Steele (209) 467-4455

SASSCO Real Estate
P.O. Box 1188
Tracy, CA 95378
Pat O'Brien (209) 835-9000

Sierra Club
1024 Tenth Street, Second Floor
Sacramento, CA 95814
Michael Paparian, Legislative Office
David Manhart, Chapter Office (916) 444-6906

Sierra Club, Water Quality
2017 Berkeley Way, #7
Berkeley, CA 94704
David Fullerton (510) 540-5226

Souza Real Estate
35 East Tenth Street, Suite A
Tracy, CA 95376
Michael Souza (209) 835-8330

Toxics Group
2609 Capitol Avenue
Sacramento, CA 95816
Judy Sparks (916) 441-4075

Tri-Valley CARES
5720 E. Avenue, #116
Livermore, CA 94550
Marylia Kelley (510) 443-7148

Western States Legal Foundation
1440 Broadway, Suite 420
Oakland, CA 94612
Jackie Cabasso, Executive Director (510) 839-5877

Media

Newspapers

The Independent
P.O. Box 1198
2219 First Street
Livermore, CA 94550
Janet Armantrout, Science Reporter/Editor (510) 447-8700

Oakland Tribune
P.O. Box 24304
409 13th Street
Oakland, CA 94612 (510) 645-2000
Marie Felde, Department Editor

Tracy Press
P.O. Box 419
145 W. Tenth Street
Tracy, CA 95738-0419 (209) 835-3030
Sam Richards, Reporter

San Francisco Chronicle
901 Mission Street
San Francisco, CA 94119 (415) 777-7118
Dave Perlman, Science Reporter
Charles Petit, Science Reporter

San Francisco Examiner
P.O. Box 7260
110 Fifth Street
San Francisco, CA 94103 (415) 777-2424
Jane Kay, Environmental News Reporter

San Jose Mercury News
608 Main Street, Suite D
Pleasanton, CA 94566 (510) 846-3296
Dan Stuber, Reporter

Tri-Valley Herald
4770 Willow Road
Pleasanton, CA 94588 (510) 734-8600
Ed Albro, Science Reporter (510) 735-8550

Valley Times
P.O. Box 607
127 Spring Street
Pleasanton, CA 94566 (510) 847-2147
Aline McKenzie (510) 847-2158

Radio Stations

KKIQ - 101.7
1603 Barcelona Street
Livermore, CA 94550 (510) 455-9550
Judy Converse, News Director

Television Stations

Community Television
P.O. Box 884
Pleasanton, CA 94556 (510) 462-3373

Appendix F

List of Acronyms and Abbreviations

Appendix F

List of Acronyms and Abbreviations

The following acronyms and abbreviations are used in this document:

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (also known as Superfund)
CRP	Community Relations Plan
DCE	Dichloroethylene (a Volatile Organic Compound)
DOE	U.S. Department of Energy
EA	Environmental Assessment
EFA	East Firing Area
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
EPD	Environmental Protection Department at LLNL
FFA	Federal Facility Agreement
FONSI	Finding of No Significant Impact
GSA	General Services Area at LLNL Site 300
HE	High Explosives
HMX	Cyclo-tetramethylene-tetranitramine
LLNL	Lawrence Livermore National Laboratory (also known as Laboratory)
NEPA	National Environmental Policy Act
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
PCE	Perchloroethylene (also known as Tetrachloroethylene, a Volatile Organic Compound)
pCi/L	PicoCuries per Liter
ppb	Parts per billion
PRAP	Preliminary Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RDX	Cyclo-1,3,5-trimethylene-2,4,6-trinitramine
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
TAG	Technical Assistance Grant
TCE	Trichloroethylene (a Volatile Organic Compound)
VOC	Volatile Organic Compound (e.g., TCE, PCE, DCE)
WFA	West Firing Area

Appendix G

Glossary

Appendix G

Glossary

Air Stripping–A method for removing volatile chemicals from contaminated water by mixing the water with air. Through this process the VOCs are transferred to the air because VOCs have a greater affinity for air than water. A carbon filter is usually utilized to remove the VOCs from the air before the air is released to the environment.

Aquifer–An underground formation composed of material such as sand, soil, or gravel that can store and supply water to wells and springs. Aquifers can be a source of water for domestic, agricultural, and industrial uses. Most aquifers used in the U.S. are within 1000 feet of the Earth's surface.

California Environmental Protection Agency (California EPA)–The California State agency with responsibility for incidents of hazardous waste contamination that affect public health.

Cleanup–Actions taken to deal with a release or threatened release of hazardous substances that could affect public health and/or the environment.

Closure Plan–A plan approved by the EPA that outlines the procedures to be followed during the closing of a hazardous waste generating, storage, or disposal site. The plan must include details on what use restrictions will exist at the site after closure is finished.

Comment Period–A time period during which the public can review and comment on various documents and EPA actions. For example, a comment period is provided when EPA proposes to add sites to the National Priorities List.

Community Relations Plan (CRP)–The CRP outlines specific community relations activities that will occur during the remedial response at a site. The CRP also outlines how the public will be kept informed of work at the site and the ways in which citizens can review and comment on decisions that may affect the final site actions. This document is typically placed in the information repository(s) established for the site.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)–Also known as Superfund, this law authorizes the Federal government to respond directly to releases of hazardous substances that may endanger public health or the environment. The U.S. EPA is responsible for managing Superfund. The major step in the Superfund process is the Remedial Investigation/Feasibility Study. CERCLA was amended in 1986 with the passage of the Superfund Amendments and Reauthorization Act.

Corrective Action Order–An order issued by the EPA under RCRA guidelines requiring generators or handlers of hazardous substances to modify improper procedures they might have, or to implement a remedy for the results of previous mishandling of hazardous substances.

Department of Energy (DOE)–An agency of the U.S. Government. DOE owns the Lawrence Livermore National Laboratory and has a contract with the University of California to administer the day-to-day operations of the Laboratory.

Depleted Uranium–Uranium from which almost all of the portion used for weapons production (the fissionable uranium isotope, U_{235}) has been removed.

Dichloroethylene (DCE)–A VOC commonly used as a solvent. DCE possesses two chlorine atoms and acts as a central nervous system depressant in high doses. It is a suspected carcinogen.

Environmental Assessment (EA)–A report that identifies potential significant environmental impacts from any federally approved or funded project that may change the physical environment. If an EA shows significant impact, an EIR or EIS is required.

Environmental Impact Report (EIR)–A detailed report on the significant environmental impacts from any project that is carried out, approved, or funded by a local or California State public agency that may change the physical environment. The EIR process was created by the California Environmental Quality Act.

Environmental Impact Statement (EIS)–A detailed report on the significant environmental impacts that a pending structure or development will have on the environment. An EIS must be prepared by a government agency when a "major" Federal action is planned that will have a "significant" impact on the environment. The EIS process was created under NEPA.

Environmental Protection Agency (EPA)–The U.S. Government agency responsible for administering CERCLA—known as "Superfund"—and its amendments, as well as RCRA and other legislation. EPA works with State and local agencies, providing technical oversight cleanup activities at Federal facilities regulated by the Superfund program.

Environmental Protection Department (EPD)–LLNL's EPD provides Laboratory programs with an array of services for managing wastes and protecting the environment. EPD's mission is to maintain adequate protection of the environment by ensuring that Laboratory programs understand and meet their environmental responsibilities as stipulated in environmental legislation, regulations, and DOE orders. Ultimately, EPD strives to minimize the impact of LLNL operations on the environment.

Environmental Restoration Program–A DOE program to clean up environmental contamination caused by past waste practices at DOE facilities.

Feasibility Study (FS)–A study made on the basis of a remedial investigation (RI) to determine the feasibility of correcting the release, or threat of release, of hazardous substances, pollutants, or contaminants. The study evaluates and develops remedial action alternatives to prevent or mitigate the release or migration of hazardous substances or contaminants.

Federal Facility–A facility that is owned by the Federal government, and may be operated directly by the government or under contract with another entity. With the passage of SARA, Federal facilities became subject to the same requirements to which other responsible parties must adhere once they are placed on the Superfund National Priorities List.

Federal Facility Agreement (FFA)–A document that specifies required actions at a Federal facility as agreed upon by various relevant agencies (e.g., EPA, DHS, RWQCB, SJCAPCD, and DOE).

Finding of No Significant Impact (FONSI)–A conclusion that may be reached after the preparation of an environmental assessment under NEPA. If this conclusion is accepted, the project may progress without significant oversight by environmental agencies.

Ground Water–Underground water that fills pores in soil or openings in rocks to the point of saturation. Where ground water occurs in significant quantity, it can be used as a water supply.

Hazardous Wastes–Wastes exhibiting any of the following characteristics: ignitability, corrosivity, reactivity, or toxicity. The EPA and State of California have also listed as hazardous other wastes that do not necessarily exhibit these characteristics. Although the legal definition of hazardous waste is complex, the term generally refers to wastes that the EPA or State have identified as posing a threat to human health and the environment if managed improperly. Federal and State regulations set strict controls on the management of hazardous wastes.

Information Repository–A file containing current information, technical reports, and reference documents regarding a Superfund site. The information repository is usually located in a public building that is convenient for local residents such as a library, public school, or city hall. In order to provide better public access, there is often more than one information repository for a particular Superfund site.

Leaching–The movement of substances with water as the water percolates or trickles down through layers of soil or rock. When these substances are hazardous wastes, their movement with the water may result in the contamination of ground water, surface water, or other soil.

National Environmental Policy Act (NEPA)–A Federal statute that imposed the first requirements on agencies to consider the environmental effects that may result from particular actions. One provision of NEPA requires the preparation of an EIS by Federal agencies when "major" actions are taken that could have a "significant" environmental effect.

National Pollution Discharge Elimination System (NPDES)–This Federal regulation, under the Clean Water Act, requires permits for discharge into surface waterways. LLNL holds an NPDES permit for cooling water discharges at Site 300.

National Priorities List (NPL)–EPA's list of the top priority hazardous waste sites in the country that are subject to the Superfund program.

Parts per Billion (ppb)–A unit of measure for the concentration of a substance in the surrounding medium. For example, one billion grams of water containing one gram of salt has a salt concentration of one ppb.

PicoCurie–A unit of measure of radioactivity, defined as the amount of a radioactive substance necessary to maintain a decay rate of 37 disintegrations per second. This is approximately equal to the decay rate of one billionth of a gram of pure radium.

Plume–A well-defined, usually mobile, area of contamination found in surface water or ground water.

Preliminary Remedial Action Plan (PRAP)–A preliminary version of a plan to clean up ground water and soil contamination at a site on the National Priorities List. This plan is submitted to public scrutiny during a public comment period, and the final version must be approved by the relevant agencies before it can be enacted.

Record of Decision (ROD)–A document outlining the steps which have been taken to arrive at a final cleanup decision for a site on the National Priorities List. The ROD is based on information and technical analysis generated during the RI/FS and consideration of public comments and community concerns. All comments received in writing, or expressed orally at a public hearing, during the public comment period are responded to in a formal manner in a Responsiveness Summary section of the ROD.

Regional Water Quality Control Board (RWQCB)–A California State agency that exercises regulatory authority over water quality standards within its jurisdiction and enforces State water quality laws. Site 300 falls under the jurisdiction of the Central Valley Region RWQCB.

Remedial Investigation (RI)–An investigation conducted to fully assess the nature and extent of the release, or threat of release, of hazardous substances, pollutants, or contaminants. This investigation gathers the necessary data to support the corresponding feasibility study (FS).

Removal Action–An immediate action taken over the short-term to address a release or threatened release of hazardous substances.

Resource Conservation and Recovery Act (RCRA)–RCRA was approved in 1976 as an amendment to the first Federal solid waste legislation, the Solid Waste Disposal Act of 1965. In RCRA, Congress established initial directives and guidelines for the EPA to regulate the management of hazardous wastes as they are produced.

Responsiveness Summary–A summary of oral and/or written public comments received during formal public comment periods on key documents such as the RI/FS report, and the formal responses to these comments. The responsiveness summary is especially valuable during the Record of Decision phase of the cleanup process, when it highlights community concerns for decision-makers.

San Joaquin Valley Unified Air Pollution Control District–The State agency exercising regulatory authority over air emissions in San Joaquin County.

Soil Gas Survey–The survey provides data on sources and extent of chemicals within underlying soil and ground water. Soil gas samples are collected by driving a hollow probe into the ground and evacuating a small amount of air. These samples are then analyzed onsite for VOCs.

Solvent–A substance capable of dissolving another substance to form a solution. The chief use of solvents is as industrial cleaners, in paints, and in pharmaceuticals. Many solvents are flammable and, to varying degrees, toxic as well.

State Action Level (SAL)–Recommended drinking water quality guidelines developed by DHS to identify contaminant concentrations that pose potential health risks. If contamination is found in concentrations above the Action Level, measures must be taken to decrease the contaminant concentration.

Superfund–The common name used for the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

Superfund Amendments and Reauthorization Act (SARA)–Modifications to CERCLA enacted on October 17, 1986. This act amended and reauthorized CERCLA for five years at a total funding of $8.5 billion. SARA also strengthened State involvement in the cleanup process, encouraged the use of treatment technologies and permanent solutions, and subjected Federal facilities to the same requirements to which other responsible parties must adhere once they are placed on the Superfund National Priorities List.

Technical Assistance Grant (TAG)–A grant offered by the EPA to the community in the neighborhood of a cleanup site. The community may receive this grant to pay for an independent expert on cleanup issues to assist them in making informed comments during the public involvement process.

Tetrachloroethylene (PCE)–A VOC commonly used as a solvent. It is also known as Perchloroethylene, hence the abbreviation PCE. PCE possesses four chlorine atoms and acts as a central nervous system depressant at high doses. It is classified as a suspected carcinogen by EPA.

Trichloroethane (TCA)–A VOC widely used as a solvent. In high doses, TCA can cause damage to the liver, kidneys, and lungs.

Trichloroethylene (TCE)–A VOC widely used as an industrial degreaser; as a solvent for oils, paints, and varnishes; and as a dry cleaning agent. Trichloroethylene contains three chlorine atoms per molecule and acts as a central nervous system depressant at high doses. It is classified as a suspected carcinogen by EPA.

Tritium–A radioisotope of hydrogen ~that emits a low-energy electron. These electrons are only able to travel very short distances through the air; this sheet of paper would stop a tritium electron if it were between you and a source of tritium. The State Action Level for tritium in ground water is 20,000 picoCuries per liter. Tritium may increase the risk of cancer if taken internally through inhalation or ingestion.

Volatile Organic Compound (VOC)–A group of organic compounds characterized by their tendency to evaporate easily at room temperature. Some familiar substances containing VOCs are solvents, gasoline, paint thinners, and nail polish remover. DCE, PCE, TCA, and TCE are all VOCs.

Appendix H

The TAG Grant Program

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The Superfund Program was established in 1980 to provide monies for the cleanup of hazardous waste sites in the United States. In 1986, Congress passed the Superfund Amendments and Reauthorization Act (SARA).

To encourage public participation in the Superfund process, Congress included provisions in SARA for the establishment of a Technical Assistance Grant (TAG) Program. The purpose of the TAG Program is to assist community groups in interpreting technical information related to Superfund cleanups. Under this program, one eligible community group at each Superfund site may obtain one grant of up to $50,000 in Federal funds to hire an advisor who can help interpret the technical information contained in site documents.

Eligibility for a TAG Grant

To be eligible for a TAG grant, a community group must be:

- incorporated;
- able to provide 20% in matching funds (which can include donated goods and services) or obtain a waiver of this requirement;
- able to meet financial and administrative requirements; and
- capable of preparing a plan to use technical assistance based on EPA's technical work schedule.

How to Apply for a TAG Grant

Interested groups can fill out and submit a grant application to EPA. An application packet is available from EPA at the address given below. The packet includes *The Citizens' Guidance Manual For The Technical Assistance Grant Program*, a guide containing detailed instructions for completing the grant application.

The application must include a description of the group's history, goals, and plans for using the technical assistance funds. A group must demonstrate that it is aware of the time commitment, resources, and dedication needed to successfully manage a TAG.

Under SARA, only one TAG may be awarded per site. To ensure that all groups have an equal opportunity to compete for the grant, in the event that a coalition of groups cannot be formed, EPA has established a formal notification process, including the following steps:

- Groups wishing to apply for a TAG must submit a brief letter to EPA, stating the group's intention to apply and naming the site(s) involved. If site project work is already underway or is scheduled to begin, EPA will provide formal notice through mailings, meetings, or other public notices to other interested parties that a grant for the site may soon be awarded.
- Other potential applicants will then have 30 days to contact the original applicant to form a community coalition.
- If potential applicants are unable to form a coalition, they will notify EPA within this time period, and EPA will accept separate applications from all interested groups for an additional 30 days.
- EPA will award a grant to the applicant that best meets the program requirements.

EPA will manage the award of the TAG.

For More Information

For more information on the TAG Program and how to apply for a grant, please contact:

U.S. EPA - Region 9
Technical Assistance Grant Coordinator
75 Hawthorne Street (H-1-1)
San Francisco, CA 94105

You may also leave a message on the toll-free Superfund hotline, 1-800-231-3075, and your call will be returned.

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